JANUARY 9, 1956 Review and Outlook Issue

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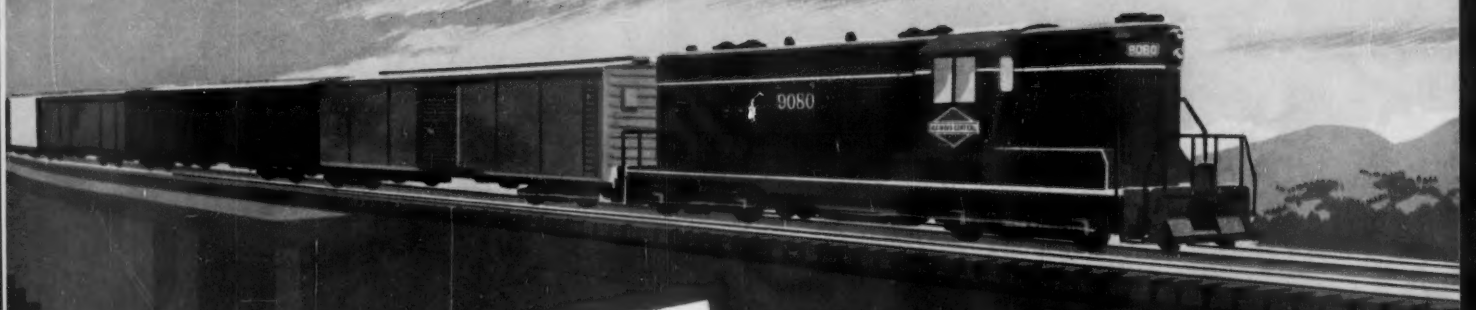

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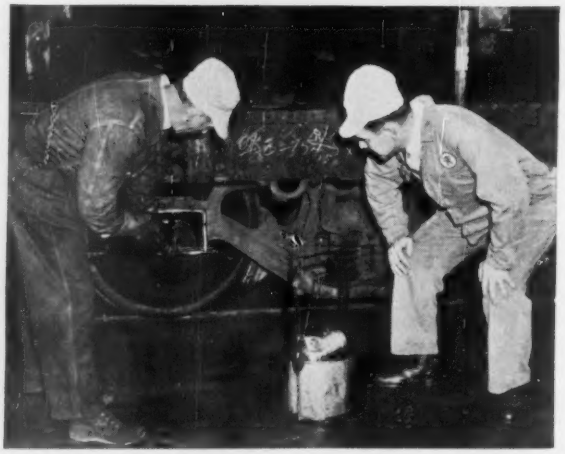

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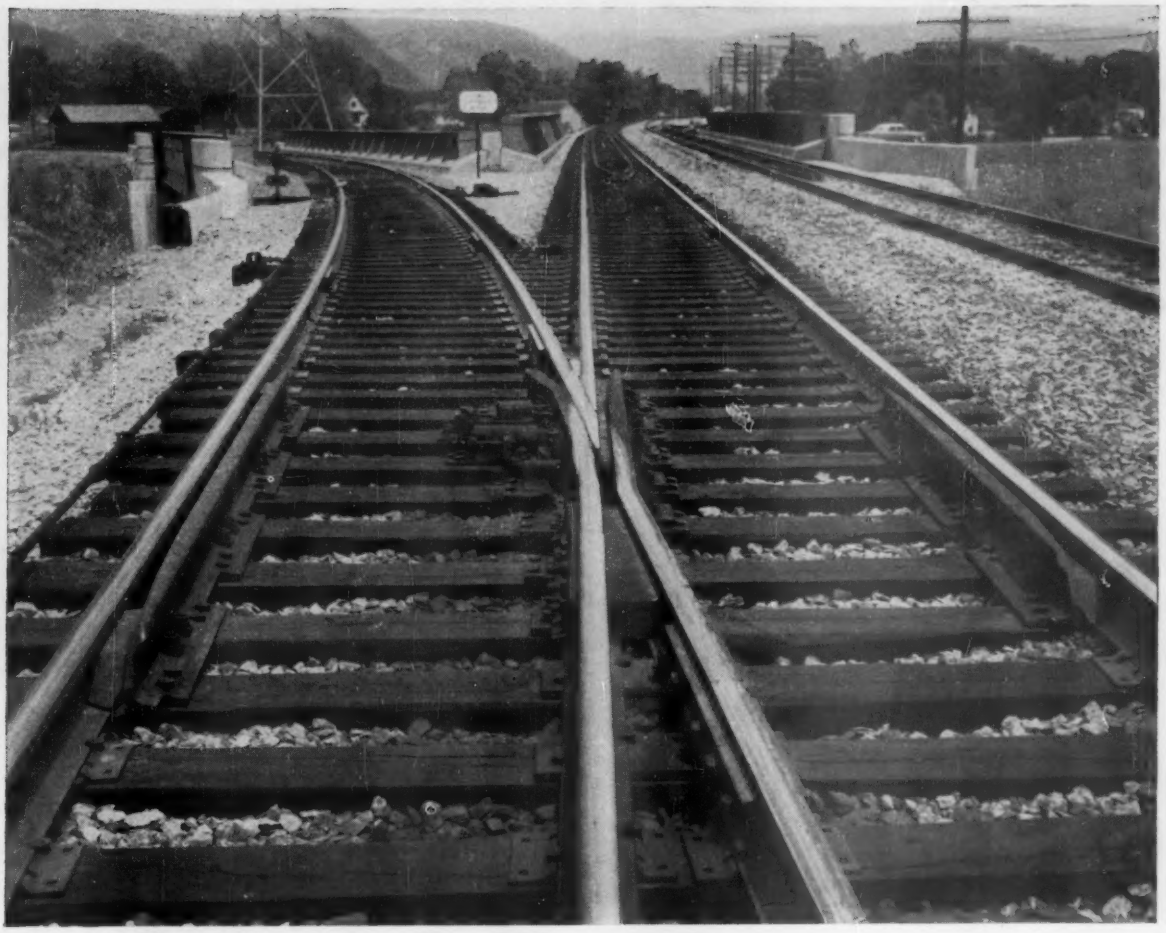

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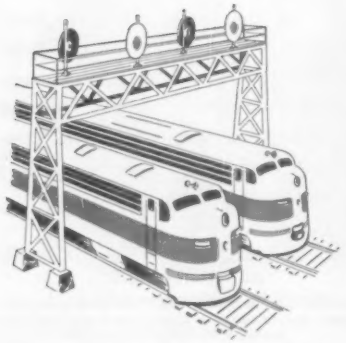

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January 9, 1956

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Operating revenues, ten months	
1955	$8,374,221,196
1954	7,780,406,868
Operating expenses, ten months	
1955	$6,294,360,120
1954	6,158,779,123
Taxes ten months	
1955	$ 923,043,139
1954	740,223,069
Net railway operating income, ten months	
1955	$ 947,241,229
1954	671,849,861
Net income, estimated, ten months	
1955	$ 753,000,000
1954	484,000,000
Carloadings revenue freight	
Fifty-one weeks, 1955	37,308,880
Fifty-one weeks, 1954	33,385,567
Average daily freight car surplus	
Wk. ended Dec. 17, 1955	5,262
Wk. ended Dec. 18, 1954	40,198
Average daily freight car shortage	
Wk. ended Dec. 17, 1955	4,191
Wk. ended Dec. 18, 1954	192
Freight cars on order	
December 1, 1955	109,370
December 1, 1954	14,805
Freight cars delivered	
Eleven months, 1955	33,137
Eleven months, 1954	33,385
Average number of railroad employees	
Mid-November 1955	1,077,086
Mid-November 1954	1,036,734

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The Year at a Glance

Most forecasters expected 1955 to be a good year for business and a good year for the railroads. Results in many industries exceeded expectations, and the railroads did relatively well, though the year was not in many respects a record-breaker.

Performance figures reflected the effect of heavy investments in modern yards, efficient power, and new signaling and communications facilities. As measured in ton-miles per freight train-hour, freight train performance was the best ever.

In Washington the railroads made little tangible progress, though they found good grounds for encouragement in the tenor of the Cabinet Committee report. No important railroad legislation was passed in 1955, and not much is expected to pass in 1956.

Railroad credit standing no longer worries Wall Street. During 1955 the B&O successfully completed its record-breaking $347 million refinancing program; and the long-pending MP reorganization moved toward solution. Railroad stock prices advanced substantially during the year, and their working capital was strengthened appreciably.

Car shortages were embarrassing in the summer and fall of 1955, and prospects for early delivery of cars on order in satisfactory numbers are not too good. The backlog of orders at the turn of the year amounted to around $1.15 billion—earmarked by the railroads for better freight equipment.

"Piggyback" service has made a hit. More railroads are offering it, and still more will be joining the parade in 1956. The peak week in 1955 saw twice as many T-O-F-C movements as the corresponding 1954 week.

Competition continued to drain off traffic the railroads could handle at less real cost, because government-favored carriers still enjoy subsidies and relative freedom from arbitrary regulation.

What's the outlook? See pages 7, 9 and 11, and the Railroad Outlook section of this issue, beginning on page 126.

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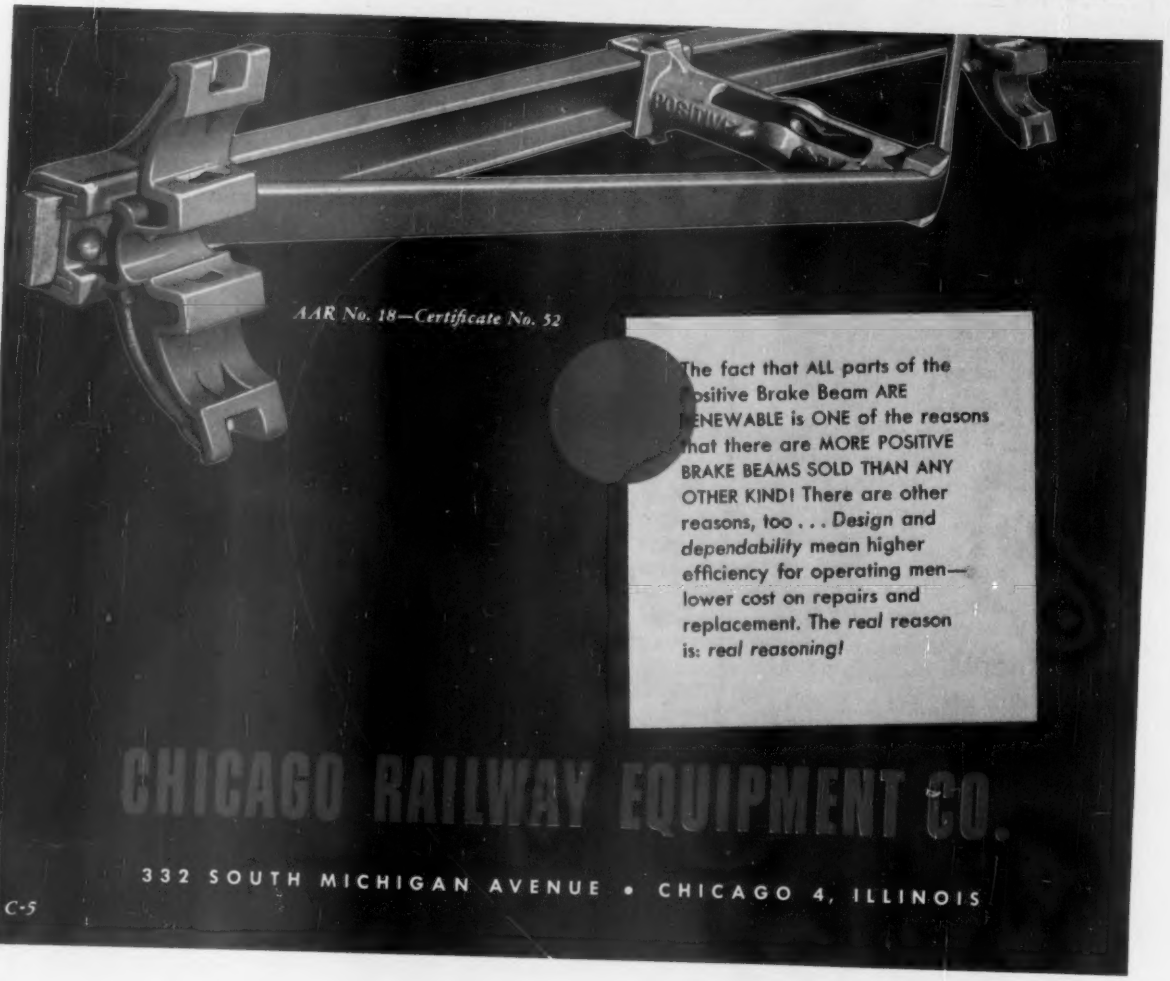
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Here are the turn-of-the-year views of Railway Age, financial analysts, and representative spokesmen of shippers

The Railroads' Outlook . . .

I—AS RAILWAY AGE SEES IT

✚ . . . A record year in almost every facet of economic activity is behind us. Most economists expect that the present good times will continue, but with slower rate of *increase*.

Best news for the heavy-goods-specializing railroads is that industry expects to increase even the high level of new plant investment attained in 1955 by 12 to 13% in 1956.

▬ . . . The overall factors which could slow up activity are (1) tighter money; (2) lower profit margins; and (3) insufficient materials and manpower to fuel the pace. A few fields —like automobiles and residential construction—are expected to fall off—though from an exceedingly high plateau.

PLANT

✚ . . . If cold cash laid down betokens confidence in the future, railroad managements have it.

All in all, the roads will spend $3.5 billion for supplies, equipment and facilities this year—up 40% over 1955 and close to the all-time record spending of $3.6 billion in 1951.

▬ . . . Acute shortages of steel and other materials and components likely will delay delivery of a large proportion of the cars on order and cripple railroad repair and rebuilding programs. *Railway Age* estimates railroad purchases in 1956 would greatly exceed $3.5 billion if components were freely available. As it is, buying of materials and supplies *will* hit an all-time record.

TRAFFIC

✚ . . . Freight traffic will do at least as well as in 1955, when carloadings, says the AAR, were up more than 11%, and ton-miles up almost 13%, over 1954. Of particular importance will be the remarkable comeback being shown by coal, a prime railroad revenue source.

▬ . . . A truer measurement of 1955's traffic is 1953—a period of more comparable economic activity. On this basis, the 1955 traffic was up only 2% and carloadings actually decreased 1%. What a 7% rate increase would do to traffic depends largely on whether the trucks follow the lead of the Southern operators in seeking to raise theirs and whether a shortage of trucks and barges develops.

EARNINGS

✚ . . . Earnings in 1956 should about equal the $915 million net income the AAR estimates for 1955—up 34% over 1954. A 7% rate boost would raise revenues substantially higher—at least initially. The ICC—although it has just balked at granting more *competitive* rate-making freedom for the carriers—will probably move with reasonable speed on the railroads' application. One commissioner—Mitchell—has volunteered the opinion that the railroads' rate of return is too low. In 1955 it was 4.15%.

▬ . . . Increased wages and materials prices may raise expenses by as much as $600 million a year. Inflation will probably move faster than even a chastened ICC. And 7% is a conservative estimate of what it will take to balance the falling value of the dollar.

Net income in 1955 was overstated by as much as $180 million, 19%. This sum represents tax "savings" through accelerated amortization—actually deferments which must be paid in future years. This overstatement of profits will continue into 1956 on equipment for which speed-up authority was granted before the 1955 deathdate. Profits of a number of roads in 1955 were further affected by income tax offsets from non-recurring losses or retirements.

TECHNOLOGY

✚ . . . Greatest promise lies in further cost-saving by technology. Among the biggest opportunities for return on investment are modern push-button yards strategically located; automation and consolidation of paper work; integration and expansion of automatic controls over line movement —including grade crossing protection; consolidation and modernization of car repair facilities; and mechanization of roadway maintenance.

A special major field for savings lies in getting more serviceable movement out of freight cars.

▬ . . . Some railroad working rules compel the wasteful use of labor. They are incompatible with optimum mechanization—and with high hourly wage rates. The unions must make up their minds whether they prefer high wages or job-spreading. They must also choose between flat wage boosts for everybody and traditional differentials for skills. They can't have both.

COMPETITION

✚ . . . A revolution in freight cars broke out in 1955. Equipment adapted to growing specialization of the transportation function and which "fits in with the shippers' chain of automation" will recapture freight traffic—particularly the "carriage trade." So will competitive ratemaking which removes the umbrella from rival carriers' operations and exploits railroads' cost advantages.

▬ . . . Some see selective rate cuts as incompatible with a general rate increase. In the immediate postwar years the railroads permitted the urgent need for successive all-around increases to inhibit them from revising rates to hold the most profitable traffic. Will they do so again?

"CLIMATE"

✚ . . . Prehearing sessions on the Cabinet Report bill focused public attention on transportation policy. The powerful National Industrial Traffic League backs the idea of more ratemaking freedom to strengthen common carriers.

▬ . . . Politics ahead—election year. Will vote-seeking legislators risk reputations over complex issues in transportation regulation in which the general public has no personal interest?

PASSENGER BUSINESS

✚ . . . An exciting new development of lightweight trains of radical design is under way. In contrast with the "streamliner" era of the thirties, this time the chief goal is lower first cost, weight, and maintenance.

▬ . . . The decline in passenger traffic continues, with 1955 passenger-miles the lowest since prewar 1940. The decline, though, seems to be leveling off. With higher wages and fewer passengers it seems likely the ICC formula "deficit" will at least equal the $669 million accrued in 1954.

QUALITY AND SERVICE

Your constant interest has been our inspiration
to produce railway appliances of outstanding and lasting performance

1956

W. H. MINER, INC. - CHICAGO

The Railroads' Outlook . . .

II—AS THE FINANCIAL ANALYSTS SEE IT

Again *Railway Age* is publishing brief comments by financial analysts about the future of the railroad industry. Their views are especially significant because what they think and write about the industry's prospects has a decided effect upon railroad credit.

Management Is Alert

The tremendous amount of new equipment now on order indicates railroad management is optimistic about traffic; not only for 1956 but for the more distant future. Management's willingness to experiment with special service equipment such as damage-free box cars, mechanical refrigeration, bulkhead cars and trailer carrying flat cars, as well as new passenger cars and trains, is positive proof of the vitality of this industry. The railroads are going to be far more serious competitors for all long-haul traffic.

I believe a new era of railroading is ahead in which the railroads will progressively attain more, not less, of the available traffic.—*Howard Morton; McMaster Hutchinson & Co.*

Net Should Improve

The high level of total industrial activity indicated for 1956 provides a basis for expecting continuation of a high volume of freight traffic, the major determinant of revenues and profits. Wage and material costs will be higher but a freight rate increase should materialize and largely offset the rise in expenses.

Capital expenditures for new equipment and for plant improvements will continue at relatively high levels. Operating efficiency for most carriers should improve further so that the carrythrough of gross revenue to net operating income may be expected to record further gains and result in somewhat better net earnings. Regular dividends appear secure while some increases and extras may well be anticipated. For investors, selection will continue important, with better grade rail shares likely to be favored.—*Felix C. Smith, manager of railroad investments, Keystone Custodian Funds.*

Surface Not Scratched

Railroad earnings during 1956 should compare with 1955.

Freight rate increases would help revenues but accelerate the steady erosion of traffic. Expenses from wages will increase, but quick write-offs on new freight cars should sustain the tax cushion in 1956. Long-range investing in railroads appears favorable considering the continuing dynamic growth of the nation's economy. Railroads do not appear to have scratched the surface on trailer-flat car service, modern accounting methods, simpler approaches to track building, and electronic locomotive, signal and yard controls.—*Edgar T. Mead, Jr., manager, research, G. C. Haas & Co.*

More Automation

I visualize railroad traffic at the start of 1956 continuing substantially ahead of the like 1955 period, with the expectation that the margin of increase will gradually taper off to the point of little, if any, increase by mid-1956. I would expect last half of 1956 traffic to be modestly beneath the level of the last six months of 1955.

I am expecting a substantial new high in piggyback traffic and looking for wider acceptance within the railroad industry of the use of automation. As to net income, I am hopeful that a rate increase, offsetting largely the recent wage increases, may become effective without too much delay, so that 1956 net results may be at or near the 1955 showings.—*W. Wendell Reuss, manager, railroad securities department, W. E. Hutton & Co.*

Increase in Equipment Trusts

The year 1956 should witness a substantial increase in the amount of railroad equipment trust financing. Unlike former years when financing was principally for diesels, or at least equally divided between diesels and freight cars, it is expected that 1956 financing will be principally for freight cars. Unfilled orders for such cars are at the highest level in over 30 years. Consequently, Philadelphia plan equipment trust financing in 1956 may well double that of 1955, when $173,000,000 of certificates were sold.—*John Stevenson, partner, Salomon Bros. & Hutzler.*

Cost Control the Key

I consider the railroad outlook favorable for 1956 based on continued economic growth. Commodity production should be higher for the year. Gross revenues in the aggregate should be up. However, as always, it will be the efficient roads that primarily benefit from these trends in terms of net earnings. Control of costs and productivity would seem to be the key factors that analysts will watch for in appraising railroad securities in the coming year.—*Richard W. Lambourne; Dodge & Cox.*

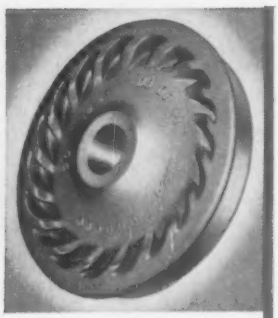
More Research Needed

Railway net income in 1956 is likely to be somewhat under last year's excellent showing of well over $900 million. Once again the industry appears to be caught in a wage squeeze, but quick action by the ICC will help to offset inflationary pressures.

Aggressive policies to win back traffic from competing agencies were undertaken by a number of progressive carriers last year. Expansion of piggyback operation, new rate concepts, radical freight and passenger car designs were introduced. Further bold measures together with more money devoted to research are necessary for the railroads to maintain their place in the transportation sphere.—*Joseph T. Small, Paine, Webber, Jackson & Curtis.*

You can't beat the Chilled Car Wheel

for low first cost and for quick delivery from the AMCCW plant near you



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The Railroads' Outlook

III—AS THEIR CUSTOMERS SEE IT

"New Life"

The outlook for the railroad industry appears brighter than it has been in many years. This applies to 1956 as well as to the long pull during the years ahead.

Bold, aggressive management, having adopted a positive approach to its problems, is infusing new life into this segment of the transportation industry. For example:

1. A determined drive is being made to repeal unrealistic governmental regulations. Many of these regulations actually prohibit the carrying out of policies regarded as basic and economically sound in other types of business and industrial activity.

2. Faster, better, service overall is a primary consideration. Accordingly, vast improvements are being made in physical plant and equipment. These improvements include modern yards and terminals, new fleets of multi-purpose cars designed to reduce loss and damage to a minimum, efficient motive power and electronic communication and signaling equipment.

3. A realistic approach to pricing policies is well under way. This has been brought about by combining economic forecasting, market research and cost analysis in such a manner that the end result now appears in simplified, competitive price lists of tariffs.

L. A. POMEROY, JR.
Traffic Manager, National Malleable & Steel Castings Co., and president, Associated Traffic Clubs of America

•

"Realistic Approach"

The outlook for the year ahead for railroads in my opinion is very promising. Managements are taking a more realistic approach to their problems and disengaging themselves from old established methods and precedents which have held them back in taking the initiative.

The railroads should not stand idly by and wait for the President's Cabinet Committee Report to get the relief they feel they should have to meet competition, as necessary legislation may be indefinitely delayed.

There has been at this writing an 11.6 per cent increase in revenue freight carloadings over the same period for the year 1954, and prospects for 1956 indicate an increase over 1955.

The railroads are in a position to enjoy their share of the business which will be moving if they meet the conditions necessary to attract the volume of freight available by reason of our expanding economy. Briefly, the conditions are: Adequate cars and power, attractive freight rates, shorter transit time, *improved service at terminals* and more careful handling of cars to prevent loss and damage.

J. W. WITHERSPOON
President, National Association of Shippers Advisory Boards, and assistant general traffic manager, United States Rubber Company

•

"Atmosphere of Optimism"

Industrial Growth.—Recent meetings of our Shippers Advisory Board have been permeated with an atmosphere of optimism insofar as the industrial growth of the Southeastern region is concerned.

Preparedness. Southeast District railroads are handling this increased volume of business to the general satisfaction of our members, with few exceptions. We are confident that adequate preparations are being made by them to handle their normal share of our ever-increasing production.

R. L. MURPHY
Newly appointed member of the Interstate Commerce Commission; formerly traffic manager, Georgia-Alabama Textile Traffic Association, and general chairman, Southeast Shippers Advisory Board

•

"Must Keep Competitive"

There is every indication that in Pacific Coast Shippers Board territory the record high level of business activity in 1955 will be carried well into 1956. All signs in this territory at the present time point to a good year for the railroads serving this area in 1956.

Complaints of shortages of some particular types of cars were heard frequently in this territory in 1955. The car situation reported in some of the other board territories was far worse than in our own.

Railroad spending has broken all records, but notwithstanding the billions of dollars spent by the railroads for capital improvements in recent years, they seem unable to meet the car requirements, and traffic that normally would have moved by rail has gone to other forms of transportation.

The railroads are again before the commission seeking authority to make another general increase in freight rates. Experience shows that every increase in freight rates diverts traffic from the railroads. The extent to which the railroads can keep themselves competitive with other forms of transportation in the furnishing of equipment and in pricing their services will determine whether the outlook for the railroads in 1956 is favorable or unfavorable.

R. C. NEILL
Traffic manager, Sunkist Growers, and general chairman, Pacific Coast Shippers Advisory Board

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"Confidence—Determination"

Financial commitments by railroads for expansion of their car fleets and construction of new service installations in 1956 reflect confidence of their management in the continued expansion of our economy. It also indicates a determination on their part not only to hold, but also to increase, their participation in the nation's traffic.

Delivery of new equipment, if it can be achieved during the first quarter of 1956 in quantity sufficient to overcome the shrinkage in ownership during 1955, and if it is thereafter maintained at a level above current retirements, should put the railroads in position to realize their objective.

Increased efficiency in operation coupled with greater revenues from increased participation in traffic movements would also strengthen their financial position and enable them to plan even further improvements.

Realization of these gains would be of great comfort and benefit to the shipping public, as well as the railroads.

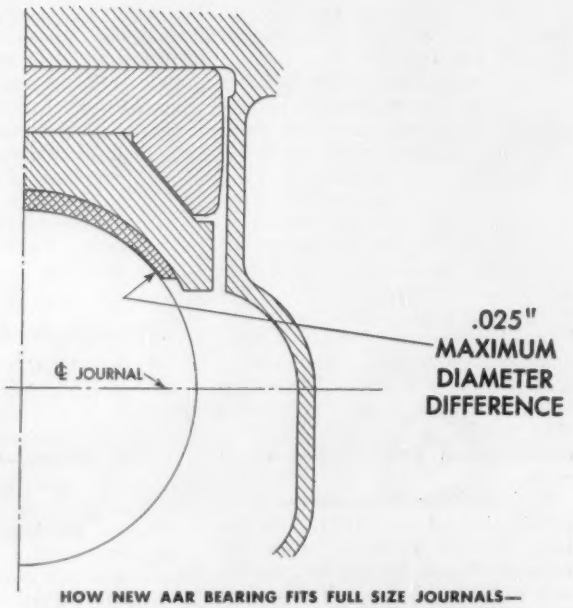
C. B. ROEDER
General distribution manager, American Home Foods, Inc., and president, Atlantic States Shippers Advisory Board

New AAR Standard

"CONTROLLED CLEARANCE" freight car bearings in FULL and STEP SIZES designed to make solid bearing performance

BETTER THAN EVER!

New bearing designs, developed by AAR and made effective March 1, 1956, to provide big extra margin of safety during initial run-in period by distributing bearing load over wider area. Step sizes for undersize journals to increase bearing efficiency throughout life of axle.



HOW NEW AAR BEARING FITS FULL SIZE JOURNALS— Newly revised bore dimensions and tolerances, combined with journal tolerances, assure bearing clearance within .010" and .025". Old style bearing dimensions and tolerances permitted maximum clearance of 1/8" on full size journals and same bearing was applied to all undersize journals.

Now AAR solid bearings will get a chance to work at optimum efficiency almost as soon as they are installed. The reason: bore diameters and tolerances are greatly reduced. These new "controlled clearance" designs, combined with babbitt's high conformability, mean that you'll distribute the load evenly through the bearing crown after only a few miles operation. You'll get far greater bearing load capacity during initial operation.

But that's not all. Now the AAR has two step size bearings (below nominal) for each standard size axle to accommodate turned down journals. Here's a big step toward the same high degree of bearing efficiency throughout the life of the axle.

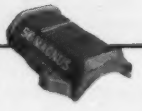
Up to now the average solid bearing freight car has run 12 to 15 years per road failure of a bearing. Now you can look for that good record to improve—hot boxes to go down, miles per hot box to go up. Yes, you can expect still better solid bearing performance in the future—and at the lowest possible cost. Magnus Metal Corporation, 111 Broadway, New York 6; or 80 E. Jackson Blvd., Chicago 4.

MAGNUS

Solid Bearings

MAGNUS METAL CORPORATION

Subsidiary of **NATIONAL LEAD COMPANY**



Rate Increase Tariffs Filed with ICC

Effective date of proposed 7% advance is February 25, instead of February 9 as originally suggested—schedules subject to protest and suspension

Having gotten the necessary relief from the Interstate Commerce Commission's tariff-filing rules, the railroads on December 30, 1955, filed tariffs publishing their proposed increase of 7% in freight rates.

The tariffs propose that the rates be made effective February 25—16 days later than the February 9 date originally suggested. It was explained that this change was in deference to the opinion expressed by Commissioner Johnson (then acting ICC chairman), who said the time schedules originally involved in the carriers' expedited-procedures plan were "clearly inadequate." (*Railway Age*, January 2, page 10.)

Time-Lag — The explanation was embodied in a December 30 statement issued jointly by chairman of the three territorial traffic associations—E. V. Hill, J. G. Kerr, and H. C. Barron. The statement went on to say that "by February 25, the railroads will have already incurred during the calendar year 1956 approximately $88 million of additional cost without offsetting revenues."

The tariffs were accompanied by a comprehensive presentation of written evidence in support of the proposed increase. This "justification" cited increases in costs since April 11, 1952, when the latest general increase in rates was authorized in the Ex Parte 175 case. Increases in annual costs since that time were put at $1,052 million, $591 million of which have been added since last September as a result of wage increases and rising prices of materials and supplies.

Bleak Outlook—Without the additional revenue which the proposed increase would yield, railroad net income "would fall far below the recession level of 1954," the statement also said. It continued to argue that the increase would do no more than preserve the earnings position of railroads, as recently approved by the commission.

As to capital investments, it was asserted that, without revenues to offset increased expenses, "even minimum improvements in plant and equipment would be impossible of achievement." Acquisition of a large number of additional freight cars "to prevent another nationwide shortage" was identified as "one immediate goal" of the present capital improvement program. It was also stated that the "minimum" program called for in the next five years will entail an annual expenditure of about $1.4 billion.

Suspension Would Hurt — The commission was urged not to use its suspension power because such action would "inflict irreparable injury upon the railroads and adversely affect the public interest in an adequate and efficient transportation system." As noted in last week's issue, the railroads' expedited-procedure plan contemplates oral argument before the commission on the question of whether or not the tariffs should be suspended. It also involves the railroads' commitment to make refunds in the amount of the difference, if any, between the 7% increase and any lower basis the commission might subsequently require after investigation.

The commission's order granting relief from its tariff-filing requirements required that this commitment be set out in the tariffs. It also instituted an investigation into the lawfulness of the proposed increase. And it stipulated that the tariffs "will be subject to protest, suspension or rejection."

Mountain-Pacific Class Rates Ordered

Adjustment in line with uniform rate and classification program will become effective June 1 for "reasonable" test

Class rate changes expected to cost affected railroads about $10 million a year have been prescribed by the Interstate Commerce Commission in the Mountain-Pacific phase of its uniform class-rate program.

That phase of the program which involved the remainder of the country was disposed of in the 28300 case, a companion proceeding to the 28310 case which resulted in establishment of the uniform classification applicable throughout the country, including Mountain-Pacific territory. Rates covered by the present report are the class scales applicable within Mountain-Pacific territory (Docket No. 30416), and the inter-territorial class rates in

ANNUAL CHRISTMAS PARTY of the Los Angeles Railroad General Agents was held December 15 in the Sheraton Town House. At the head table are, left to right: Ray Sinclair, western traffic manager, Gulf, Mobile & Ohio; James Buring, general freight agent, Union Pacific; George B. Hanson, president, Pacific Electric; Ross E. Chappell, assistant general passenger traffic manager, Santa Fe; Carl H. Saltmarsh, general passenger agent, UP; James E. Pruett, passenger traffic and public relations manager, Southern Pacific; Harry McNamara, assistant general freight agent, Santa Fe; D. Seaman (standing), district passenger manager, Pennsylvania, and president of the agents' group; Robert McAllister, general agent, Santa Fe; George Buckley, general agent, GM&O; Carroll Huff, general agent, Rock Island; and M. Mauhs, district freight representative, Baltimore & Ohio.

both directions between that territory and other sections of the country (Docket No. 30660).

The adjustment prescribed by the commission is that proposed by the railroads which were otherwise faced with the prospect of having the 28300 scale extended to the traffic involved, with resultant revenue losses of about $34½ million a year. The new rates must be established by June 1.

Test Period—As now prescribed, they are to be on an interim basis, the commission having found that a "reasonable test period" will be necessary to determine accurately the final effect upon the carriers' revenues. "At the proper time," the report added, "further proceedings to determine the revenue effect and finally to dispose of the issues will be conducted by us."

From Commissioner Clarke came a dissenting expression to which Commissioners Mitchell and Winchell subscribed. The dissenters thought it "neither desirable nor lawful" to prescribe an interim adjustment at this time. Citing railroad plans to present additional evidence in defense of existing rates, they added:

"Our authority . . . to determine and prescribe lawful rates . . . is conditioned upon there having been a 'full hearing.' A full hearing is one in which ample opportunity is afforded to all parties to make . . . a showing fairly adequate to establish the propriety or impropriety . . . of the steps asked to be taken . . . . Such an opportunity has not been afforded respondents."

The dissenters conceded that additional evidence might justify the rates now prescribed, but they pointed out that, if higher rates were found justified, there are "no remedies by which respondents can recoup their losses." They also pointed out that shippers who considered themselves damaged by maintenance of present rates might file complaints seeking reparations.

Revenue losses will result not only from lower class rates embodied in the new scale but also from the alternation arrangement which will be involved. That arrangement, which the commission said the carriers "agreed to at the insistence of shippers," will provide that the new class rates will alternate with commodity rates, i.e., that the class rates will apply when lower than corresponding commodity rates. Evidence reviewed in the commission's report indicates there will be many such instances.

A like alternation situation remains before the commission for consideration as a result of petitions filed last July by railroads in Western Trunk Line and Southwestern territories. These petitioners ask that the 28300 case be reopened so they can show the revenue loss which would be involved if they are required to provide for alternation of their commodity and exception rates with 28300 class rates (*Railway Age*, July 18, 1955, page 9, and October 17, 1955, page 16). In the present report, the commission took "official notice" of these petitions, which are to be judged "on merit."

ICC Intent—The commission gave assurance that it had rate relationships and revenue results in mind when it put the adjustment now prescribed on an interim basis. "It is not our intention," the report said, "to disturb more than is necessary the existing commodity and exception rate structure, nor to reduce materially the carriers' current revenues." At the same time, however, it considered the interim adjustment necessary because cost studies of record showed that "differences in cost no longer justify maintenance of existing differences in class rates as between Mountain-Pacific and 28300 territory."

Meanwhile, the commission had led up to the report's formal findings with a discussion of the class rate structure's role and importance. It noted that class rates accommodate a relatively small percentage of traffic from a tonnage standpoint, but it went on to say:

"Whether the volume of movement of any particular article or commodity is small or large the law demands that the rates . . . shall be just, reasonable, non-discriminatory, and non-preferential. The inhibitions of the law against discrimination are designed for the protection not only of the shipper or receiver of freight, but of communities, sections, regions, and territories."

Not Merely Paper Rates—The commission also said it has never felt that the purpose of a system of class rates "is simply to furnish a point of departure" for establishment of commodity rates or exceptions. "Class rates," the report added, "ought to be so made as to enable them to respond to the needs of an important segment of traffic. It is not feasible to provide commodity rates or exception rates for every particular movement of freight. Some traffic must depend upon class rates as the only measure of charges for the transportation service performed or required."

On the basis of this test, the commission went on to conclude that the class-rate system in Mountain-Pacific territory "is not performing its proper functions." As to rates to and from that territory, it said that, while not so bad as the Mountain-Pacific scale, they were "obviously not suited to complement the existing uniform freight classification."

CHESSIE IS AIR-BORNE—Walter J. Tuohy (right), Chesapeake & Ohio president, chats with James H. Carmichael, Capital Airlines president, in front of the airplane leased from Capital by the C&O. The plane, outfitted by the railroad as a "flying office car," is called the "Chessie," after the C&O's famous sleeping kitten trade mark. A twin-engine DC-3, the plane was turned over to Mr. Tuohy at Cleveland last December 21.

Tariff Group Issues 17th Progress Report

The Railroads' Tariff Research Group has issued its seventeenth progress report which includes Freight Tariff Improvement Bulletins 94 to 98, inclusive, and supplements to Bulletins 33 and 57.

The bulletins prescribe tariff specifications approved by the railroads' Administrative Committee and the Cooperating Committee of the National Industrial Traffic League.

"Incentive Rate"—Bulletin 94 prescribes a standard arrangement for

publishing so-called incentive rates or ratings, where one rate applies for the weight loaded up to a stated figure and a lower rate for any additional weight. The prescribed arrangement avoids use of reference marks by providing that the basic rate be published twice—once for shipments which do not weigh in excess of the minimum and again for application on excess above the minimum.

Bulletin 95 requires that tariffs applicable to or from points in Canada must show on their title pages provinces and stations in the same detail as is done in stating coverage of a tariff applicable at stations in the United States. It will no longer be sufficient to show merely "Canada," "Eastern Canada," or other similar general descriptions.

Bulletin 96 is designed to drive cancelled tariffs out of "active" files. It directs tariff makers to distribute (immediately after effective date of a new tariff) a "memorandum" supplement to the old tariff, giving notice of cancellation and identifying the tariff thereafter applicable.

Search Simplifier—Bulletin 97 is designed to simplify the search for particular rates in the miscellaneous rate section of specific commodity tariffs. It directs that rate item numbers be shown against affected origins, destinations and commodities in the indexes of origins, destinations and commodities.

Bulletin 98 directs tariff makers to use an encircled dot exclusively to denote interstate application of rates. The ICC's tariff circular now provides for an intrastate-rate marker, but none for interstate rates.

The supplement to Bulletin 33 is Supplement 2. It makes optional in tariffs of less than 50 pages this bulletin's requirement for solid black borders on the outer edges on divider or title pages for the sectional subdivisions of tariffs made up in the form of separately numbered sections.

The supplement to Bulletin 57, also Supplement 2, extends to basing or grouping tariffs this bulletin's requirement (heretofore applicable only to rate tariffs) that base points in the index of stations must be shown in parallel column so that station and grouping information appear together.

Credit Card Use Doubles in Past Months

During the past several months more than twice as many credit cards have been issued for railroad service than ever before in the industry's history, Earl B. Padrick, chairman of the Rail Travel Credit Agency, has revealed. "Well over 220,000" cards are now in use, he said.

New credit cards offer the holder a wider selection of railroads and chargeable services than the cards which were replaced last August 1.

The new cards are held by more than 50,000 U. S. firms and individuals.

RAILWAY MARKET Outlook THIS WEEK

New Equipment

FREIGHT CARS

► *Serviceable Fleet Gained 3,485 Cars.*—Class I railroads added 3,485 cars to their serviceable fleet last November, Chairman A. H. Gass, Car Service Division, AAR, reports in his latest review of "The National Transportation Situation"; the November rise, like those of the two preceding months, was due to stepped-up repair programs; December 1's bad-order ratio—4.4% of ownership—was lowest since January 1948; meanwhile, Class I ownership dropped by 1,471 cars in November, only 3,111 new cars having been placed in service while 4,582 were retired.

► *Performance at Four-Year Peak.*—Latest performance data, Mr. Gass said, showed September's record at 1,075 net ton-miles per serviceable car per day, best since October 1951; the September 1954 figure was 896.

► *Chicago & Eastern Illinois.*—Plans to order "several hundred" freight cars this year; 1956 capital outlay will be $7,500,000, to include the cars and other projects.

► *Chicago & North Western.*—Ordered 1,201 box cars, Pullman-Standard; approximate cost $8,500,000; delivery second half 1956.

► *Detroit & Toledo Shore Line.*—Ordered 100 50-ton 50½-ft steel box cars, General American; delivery expected third quarter 1956.

► *St. Louis Southwestern.*—Ordered 950 cars, approximate cost $7,000,000; Pullman-Standard will build 700 50-ton 40½-ft box cars; Bethlehem Steel, 200 70-ton 52½-ft fixed-end gondola cars; Greenville Steel Car, 50 50-ton 53½-ft flat cars; delivery expected 1957.

► *Southern.*—Ordered 246 cars; Pullman-Standard will build 225 50-ton 50½-ft box cars and six 70-ton 40-ft 8-in side-door hopper cars; Thrall Car, 15 90-ton 38-ft depressed center flat cars; deliveries during third quarter 1956.

LOCOMOTIVES

► *Chicago & North Western.*—Plans to order additional diesel-electric road-switching units this year, possibly as many as 15.

► *Denver & Rio Grande Western.*—Ordered 12 1,750-hp diesel-electric road-switching units, Electro-Motive; anticipated delivery next July.

► *Union Pacific.*—Ordered 25 1,000-hp diesel-electric switching units, Alco Products.

MARINE

► *DL&W.*—The five diesel-electric tugboats reported in some copies of last week's issue as being ordered by the Erie from Bethlehem Steel actually were ordered by the Delaware, Lackawanna & Western.

compared to 26,000 for the old cards. Personal credit cards now account for more than $1 million a month in billings, Mr. Padrick said.

Operations

Passenger Traffic Not a Deficit Operation—Padrick

"I do not consider railroad passenger traffic to be a deficit operation," E. B. Padrick, chairman, Trans-Continental and Western Passenger Associations, told the Traffic Club of Minneapolis recently.

Mr. Padrick does not believe the ICC formula for allocation of expenses between freight and passenger service meets present-day conditions and requirements. Passenger service should be charged "only such expenses that would cease if the service were discontinued," he said.

On most railroads that maintain a high degree of passenger service, revenues from passenger operations exceed direct expenses and make some contribution to overhead, Mr. Padrick added.

According to the ICC formula, the railroad passenger deficit for 1954 totaled $669 million. But considering only directly assignable expenses, Mr. Padrick said, the passenger deficit amounted to $38 million. He continued: "I would be willing to suggest that if the expenses of the various passenger services were computed, commutation service alone would more than account for the $38 million difference between revenues and direct expenses."

"We in the railroad business do not believe in a subsidy," he continued. "We believe users of a transportation service should pay the cost for the operation of that service, and no burden should be placed upon the tax-paying public by any form of transportation.

"Railroads must be given an equal opportunity to meet their competition. If this is not done, there may be, in the not too far distant future, necessity for some kind of relief by the government in connection with railroad passenger service."

Service Orders Expire

Five ICC service orders, including Service Order No. 904 which prescribed railroad operating regulations for movement of freight cars, expired on schedule December 31, 1955.

The other expired orders were Nos. 905 and 906 which restricted free time allowed on cars at ports; No. 907, which imposed restrictions on stopping lumber shipments for partial unloading; and No. 908 which authorized railroads to substitute up to three refrigerator cars (not suitable for transporting perishables) in lieu of each box car ordered for shipments in western states.

CNR Extends Piggyback

The Canadian National has extended its trailer-on-flat-car service to provide a link between Toronto and Windsor, making the latter the fifth city to participate in the road's piggyback operations. The original fleet of 12 trailers and six flat cars with which the CNR began piggyback service in 1952 has been increased to 50 trailers and 25 flat cars. Additional equipment is on order.

WM, Losing Money, Would Drop More Passenger Trains

The Western Maryland filed an application December 30 with the Maryland Public Service Commission for authority to discontinue its remaining passenger trains between Baltimore and Hagerstown.

Records kept since inception of the present schedule show a 20% decrease in passengers, and a steady increase in annual losses on the trains.

The two trains a day in each direction between Baltimore and Hagerstown operate at an annual out-of-pocket loss of over $150,000. Recent loss of the mails, which the government has given to highway motor carriers, will increase this deficit by another $25,000 a year. Revenue from mail was approximately as great as total passenger revenues on the trains. Gross revenues since the schedule was instituted June 1, 1953, including income from mails, have never been sufficient to pay wages of train crews and the cost of fuel to run the trains.

Fire Damages Wabash's Chicago Freight House

Fire of undetermined origin in the Wabash's Chicago freight house December 26 caused damage estimated at $1 million. The inbound LCL house was destroyed, as were local freight offices containing waybills and other records.

Inbound LCL operations were shifted to the adjacent outbound LCL house, and overhead cars normally worked in Chicago had to be handled at other points to eliminate delays.

Temporary quarters for the local freight office have been established in the Railway Express Building at Taylor street and Plymouth court.

SUPPLIERS SEE ONE OF BEST YEARS AHEAD

The railway supply industry should have one of its best years in 1956, despite the anticipated short supply of some raw materials. This favorable outlook applies to the railway supply industry "across-the-board," a point overlooked too often in current concern about the freight car situation.

Only a shortage of some materials, particularly steel, can prevent 1956 from being the supply industry's best year. This situation will probably hold capital expense items below their previous peaks, but purchases of fuels, materials and supplies should reach a new record high.

The supply industry has shown a basic confidence in railroads that is unique in our economic history. This confidence has been expressed in terms of the suppliers' own existence. Their willingness to hang on through some lean years on the gamble that railroad purchases would eventually come back, is real evidence of the industry's faith in the future of rail transportation in this country.

Now, while things are improving, we must diligently study ways and means of ironing out the "feast and famine" aspect of railway purchases, which is one of the major tasks to which Railway Progress Institute member committees will turn their attention in the coming months. The RPI's fundamental objective is to promote railroad progress and prosperity. Already, since it succeeded the former Railway Business Association in mid-1955, the RPI has completed its internal reorganization and embarked on an expanded public relations program on behalf of railroads. We now have a "hard core" membership of 88 leading railway supply companies and we are sure our ranks will be expanded greatly in 1956.—*Holcombe Parkes, president, Railway Progress Institute.*

Labor & Wages

Erie Provides for Workers In Move from Dunmore Shop

Abandonment of the Erie's flood-damaged Dunmore, Pa., car shop next June 1 won't leave skilled employees there unable to find work in their own trades.

When the Erie moves the shop to Meadville (*Railway Age*, October 24, 1955, page 102), it will pay moving expenses for all of its 250 Dunmore employees who wish to transfer to the new plant. For those who do not relocate, the road has provided an alternative through sale of its shop to an iron works firm which will hire 250 men in Dunmore, with priority for former Erie employees.

The Erie also has announced sale of about 16 acres of potential factory

(*Continued on page 198*)

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Better Diesel aluminum piston cleaning...and cleaning other aluminum parts...in less time with complete safety is the unfailing result when Turco Transpo is used. Transpo, like other Turco compounds, was *developed especially* for railroads. It stands as a good example why, for any cleaning job...*railroad cleaning job* ...America's leading railroads...turn to Turco...*first!*

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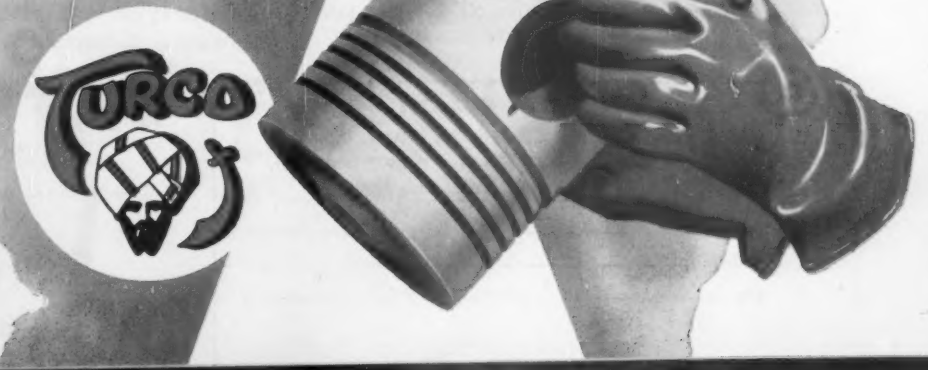

40° tip back at ground level to hold load.

High lift, with over 11½ ft. of dumping height.

CATERPILLAR ANNOUNCES

THE NEW NO. 977 TRAXCAVATOR*

Here's the new boss of all excavator-loaders... the new Caterpillar No. 977 Traxcavator. The No. 977 has important new features which greatly increase productivity and earning power.

Features of the No. 977 Traxcavator

- 96-in., 2¼-cu.-yd. bucket.
- 100 HP CAT* Engine, with ample power to "bury" the bucket and lift big loads.
- Bucket tips back 40° at ground level to retain heaping loads.
- More than 11½ ft. of dumping height make it easy to load any truck or railroad car.
- Steel bumpers on lift arms allow rapid jarring of bucket, and 50° discharge angle helps to empty sticky materials fast.
- Automatic kick-outs put bucket in "hold" position at maximum height and position bucket for digging on next pass. Easier operation and faster cycle times.
- Advanced hydraulic system, with pump protected by full flow filter.
- Hardened, spool-type operating valves located in large tank, protected from dirt or damage.
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- Each track controlled by heavy-duty dry multiple disc steering clutch and contracting band brake.
- Tools for any job: 3-yd. bucket for light material; 9-tooth quarry bucket; heavy-duty bucket; skeleton rock bucket; log and lumber fork.

Now three sizes of Traxcavators are available for all your excavating and material-handling needs. They're *unit-built* machines, so efficient that you'll find they match or excel competitive equipment with nominally greater bucket sizes. You can choose the right Traxcavator for your job from the No. 933 (1 cu. yd.)—the No. 955 (1½ cu. yd.)—or the No. 977 (2¼ cu. yd.).

Let your Caterpillar Dealer show you how these new machines can make money and *save* money for you. Get full details from him. Or mail the coupon below.

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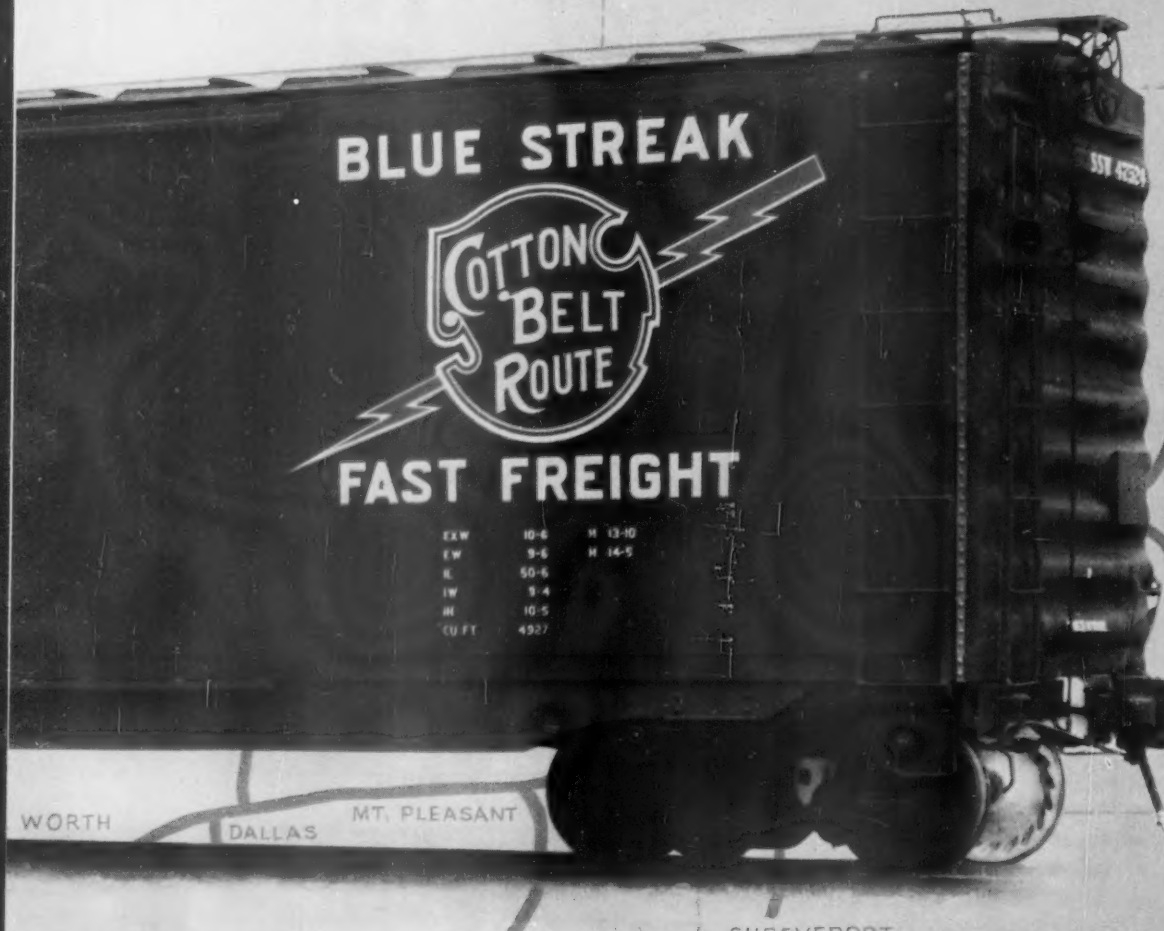
THE 75,000th



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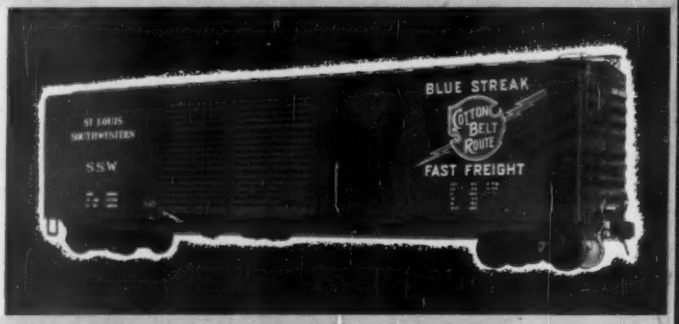
EAST ST. LOUIS
KANSAS
MEMPHIS
GILLETT
MISSISSIPPI
WORTH
DALLAS
MT. PLEASANT
SHREVEPORT
WACO
TEXAS

* This contribution to the nation's freight car supply follows recent Southern Pacific announcements that it plans to add another 10,000 cars costing $90,000,000 to its freight car fleet. Thus, its total number of cars acquired or on order since World War II will be brought to more than 57,000.



PS-1 BOX CAR

The Cotton Belt, ordering the 75,000th PS-1 Box Car, signals 1956 as the Tenth Anniversary of Freight Car Standardization

The progressive and service-minded St. Louis & Southwestern Railway Co., the famed Cotton Belt, has ordered the 75,000th PS-1 Standardized Box Car to be built by Pullman-Standard Car Manufacturing Company.

This means that since Pullman-Standard made standardized freight cars available in 1946, over 75,000 PS-1 Box Cars have been put into service or ordered by the railroad industry. The Cotton Belt's purchase, therefore, has both numerical and chronological significance: it heralds 1956 as the Tenth Anniversary of Freight Car Standardization.

With the introduction of the PS-1 in 1946, an important railroad need was filled; the need for a low-cost, minimum maintenance, high performance, precision built, mass produced box car that was designed and tested to serve equally well on all parts of the Great American Railway System. The acceptance earned by the theory of standardization in the form of the PS-1 fulfilled Pullman-Standard expectations. In only ten years, one out of every twelve of all U. S. box cars is a PS-1. And at the present rate of purchase, more than one out of every two box cars ordered from all builders, including commercial carbuilders and the railroads' own shops, is a PS-1 Pullman-Standard Standardized Box Car.

Pullman-Standard plans to make special note of 1956 as the Tenth Anniversary of Freight Car Standardization.

And the purchase of the 75,000th PS-1 has earned the Cotton Belt, an affiliate of the Southern Pacific Company*, the first Tenth Anniversary salute. This important railroad is a quantity user of Pullman-Standard Standardized Freight Cars—both PS-1 Box Cars and PS-2 Covered Hopper Cars. The addition of the 75,000th PS-1 to the Cotton Belt's fleet is another indication of the up-to-date, modern equipment these forward thinking railroads are using to provide pace-setting service for their many important shippers and consignees.

WORLD'S LARGEST MANUFACTURER OF PASSENGER AND FREIGHT CARS

PULLMAN-STANDARD

CAR MANUFACTURING COMPANY
SUBSIDIARY OF PULLMAN INCORPORATED
79 EAST ADAMS STREET, CHICAGO 3, ILLINOIS
BIRMINGHAM, PITTSBURGH, NEW YORK, SAN FRANCISCO, WASHINGTON

SOUTHERN PACIFIC LINES

Adopt new

"Steel rails of the Southern Pacific now join the West and Southwest in an eight-state 'Golden Empire,' a region of unprecedented industrial, agricultural and population growth.

"The old frontiers are no more, but it is to the continued growth and development of this amazing region that SP's men and women are now dedicated."

The 136 and 119 rail sections now designated Southern Pacific System Standard, afford CF&I the opportunity of joining the SP family in rendering an enduring service to sustain the phenomenal expansion of this vast domain.

3785

rail sections

Purported 30-lb. section used by Sacramento Valley Railroad, oldest unit of SP's Western lines, 1855.

New 136-lb. Standard, 1955.

Are Based On SP Sections

To a considerable extent, the new sections are designed around two Southern Pacific sections — the SP 113-lb. and the SP 132-lb. headfree sections. CF&I 119-lb. rail has exactly the same height ($6\frac{13}{16}$ in.) as the SP 113-lb., and the 136-lb. section has the same height ($7\frac{5}{16}$ in.) as SP 132-lb. The base widths of the comparable sections are also the same.

Railway Track and Structures, September 1955

CF&I

THE COLORADO FUEL AND IRON CORPORATION
DENVER, COLORADO

vapor **RE-**

MAN*

(a definition):

Vapor re-manufacturing of components re-built to practically original tolerances on a production basis.

This program does not affect the railroads' requirements for the purchase of new Vapor devices. It does insure adequate re-manufacture of worn components which many railroads have found it unsatisfactory to handle because of the low volume of work involved at any one time.

Re-man devices deliver service almost equal to original performance and include a wide variety of Vapor products (from metallic conduits to steam generators).

Write for Bulletin 429.

VAPOR HEATING CORPORATION
80 East Jackson Boulevard • Chicago 4, Illinois

simple

The "Redipak" lubricating pad is a square block of foam neoprene, molded with cored passages and covered with cotton wicking material. It is installed—without any other packing—in the standard journal box without jacking the box.

Stop Hot Boxes!

"Redipak" Lubricating Pad points the way toward elimination of the hot box problem

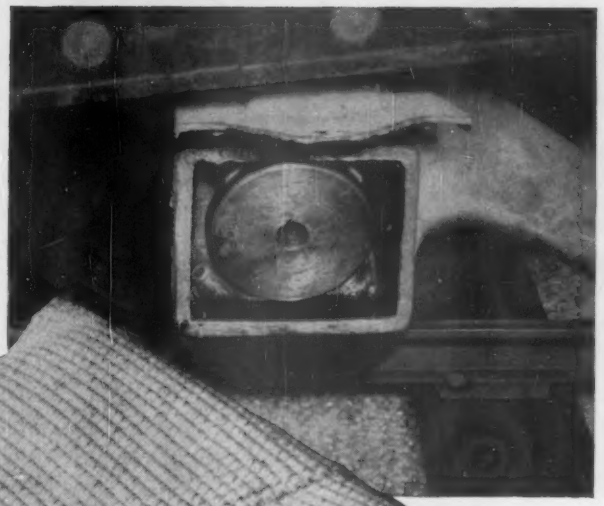
foolproof

The square "Redipak" lubricating pad is fully symmetrical—it can be installed any side out, either face up. It can be inserted by hand or with a "Redipaker"—a simple bent rod which speeds up the work—and is removed with a standard packing hook.

No waste... with "Redipak"!

cool-running

The "Redipak" lubricated bearing has operated as much as 50°F. cooler than waste-lubricated bearings, under certain conditions. In laboratory starvation tests, with no free oil in the box, the "Redipak" retained enough oil for 10,000 miles of high speed operation.



long-lasting

In service tests, "Redipak" lubricating pads have operated over 90,000 miles each, without noticeable wear. No pad has shown any sign of glazing. Inspection of the bearings shows that the pads do not lint.

AMERICAN
Brake Shoe
COMPANY

NATIONAL BEARING DIVISION
ST. LOUIS 10, MISSOURI

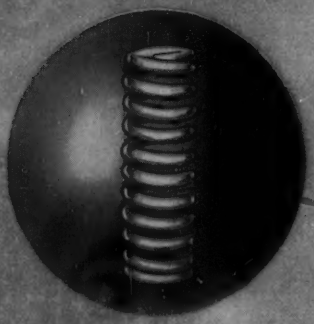
8 TIMES AROUND THE WORLD ...

FRICTION WEDGES

Because of large bearing areas, both flat and convex surfaces of the original wedges showed negligible wear at any point; wedges should last as long as the car

FRICTION MECHANISM STILL IN TOP CONDITION ...

Technical Center
Cleveland

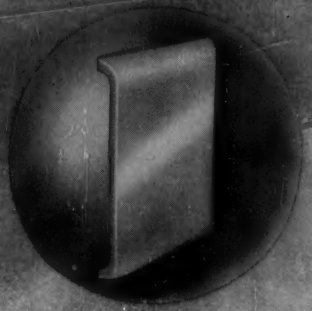


WEDGE SPRINGS

Original springs, still in good condition, should last the life of the car. None were broken, none had a permanent set—even after 200,000 miles

BOLSTER COLUMN LUGS

Only contact between bolsters and frames is with *outside* bolster column lugs. Greatest wear measured on any lug was less than 1/32", even less wear on vertical columns



FRICTION WEAR PLATE

Plates showed negligible wear and full-width bearing. Spring steel plates, slightly less hard than wedges, give maximum wear resistance to both wedge and plate

WEDGE POCKETS

Side frame pockets showed negligible wear, no scoring or gouging. Full-width bearing of wedge against side frame pocket distributes pressure evenly over large area

LOAD SPRINGS

Light coil contact showed few oversolid blows, proving efficiency of C-1 truck friction mechanism

PROOF OF THE NATIONAL C-1 TRUCK'S LONG LIFE

The "control center" of a smooth-riding freight truck is the friction control mechanism. Hence, wear life of this mechanism controls how long the truck will continue to give you what you paid for—a smooth, "lading-conscious" ride.

A recent control center inspection of National C-1 trucks, after 200,000 miles in rugged service, proves that the friction control mechanism is strong, powerful and long lasting—designed for the entire life of the car. Furthermore, the excellent condition of wheels, journals, bearings, and bearing wedges—all original equipment—shows that C-1 trucks hold maintenance costs to a minimum.

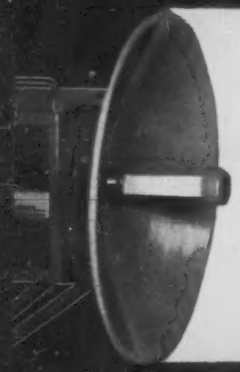
AA-512

NATIONAL MALLEABLE and STEEL CASTINGS COMPANY

Cleveland 6, Ohio

COUPLERS • YOKES • DRAFT GEARS • FREIGHT TRUCKS • SIDEBEAM PACKAGES • JOURNAL BOXES AND LIDS

For Greatest Reliability over



it's PHILCO POWER

10 times more microwave power gives

EXCLUSIVE WITH PHILCO! Ten times more transmitter power in Philco CLR-7 Microwave systems . . . with a degree of performance and reliability never before attained in microwave equipments.

Heart of the Philco system, the "Power House" Klystron, generates a full watt of power (10,000 watts ERP) in the preferred 6000-7500 mc band.

This Philco CLR-7 Microwave power results in a received signal 10 times stronger—a higher safety margin to overcome adverse propagation conditions.

Philco CLR-7 Microwave equipment can be installed in minimum space... employs reliable, long-life tubes, a positive frequency control system and is completely compatible with existing wire line and two-way radio facilities *and with any type multiplex equipment.*

Get complete data on CLR-7 Microwave equipment. Let Philco help in the planning of your system. Philco maintains a staff of microwave specialists who are experienced system and field engineers. Call a Philco field representative or write Philco, Dept. RA, today.

PHILCO REGIONAL SALES OFFICES

CHICAGO 11, ILLINOIS
666 Lake Shore Drive

LOS ANGELES 25, CALIF.
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SAN FRANCISCO 3, CALIF.
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WASHINGTON 6, D.C.
744 Jackson Place, N.W.

DALLAS 1, TEXAS
201 Southland Life Bldg.

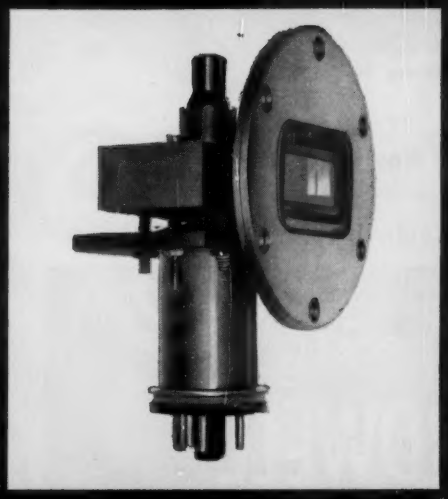
the "Long Haul"

THAT COUNTS!

you advantages like these:

- 160% greater maximum hop distance
- Fewer microwave relay stations
- 10,000 watts effective radiated power—
  50% smaller antennas
- Reduced tower installation costs
- 10 db additional signal safety margin

Philco CLR-7 Microwave repeater . . . rugged! compact! reliable! Built to provide continuous, trouble free service over short or long hauls.



Philco "Power House" Klystron provides the highest equipment power output avdilable in the preferred 6000-7500 megacycle band.

PHILCO CORPORATION

Government and Industrial Division

Philadelphia 44, Pennsylvania

In Canada: Philco Corporation of Canada Ltd., Don Mills, Ontario • In Europe: Philco Corporation, Paris, France.

* Energy is **Absorbed** (Not Stored)

Westinghouse
Friction Draft Gear
Type NY-11-F
Certified A.A.R.

* Exclusive Combination . . .

High Absorption and Low Reaction!

The energy of today's railroading impacts is dissipated by *friction* within the Westinghouse Draft Gear.

High absorption is characteristic of this particular draft gear, in combination with low reaction. Shocks are absorbed without transmitting excessive forces to the car structure and lading. Damage claims are reduced to a minimum, your equipment is protected. Unnecessary and costly maintenance is avoided.

The Westinghouse design provides proven realistic protection . . . continuing efficiency . . . important economies.

Cardwell Westinghouse Co.
332 S. Michigan Ave., Chicago 4, Illinois
Canadian Cardwell Co. Ltd., Montreal

Specify
CARDWELL
WESTINGHOUSE

CEL-O-PAK

THE MOST PRACTICAL And *Economical* SUBSTITUTE For Waste-Packed Lubrication

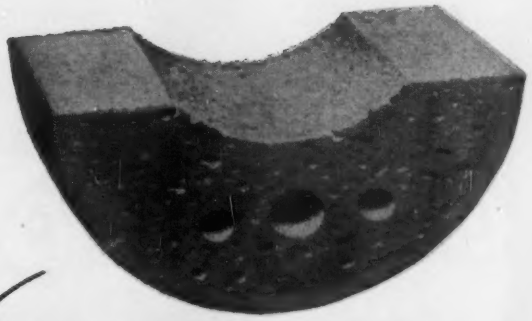
45 ROADS are now testing Cel-O-Pak Pads — the long-sought answer to the pressing problem of successful low-cost journal box lubrication.

LOWER IN FIRST COST . . . *Lower in first cost* than any other proposed substitute for waste packing, the case for Cel-O-Pak is convincing. The higher absorbency and freer pumping qualities of the cellulose sponge have been proved in exhaustive laboratory tests as well as out on the road.

NO MORE "WASTE GRABS" . . . "Waste grabs" become a thing of the past—the Cel-O-Pak stays intact through all degrees of temperature and the stresses of impact switching. You apply this *preformed* pad quickly and inspection routines are simplicity itself.

BEST LUBRICATION FOR BEARINGS . . . With Cel-O-Pak, you have greater oil reservoir capacity in terms of saturation ratios—more oil to lubricate the bearings. It means far longer bearing life.

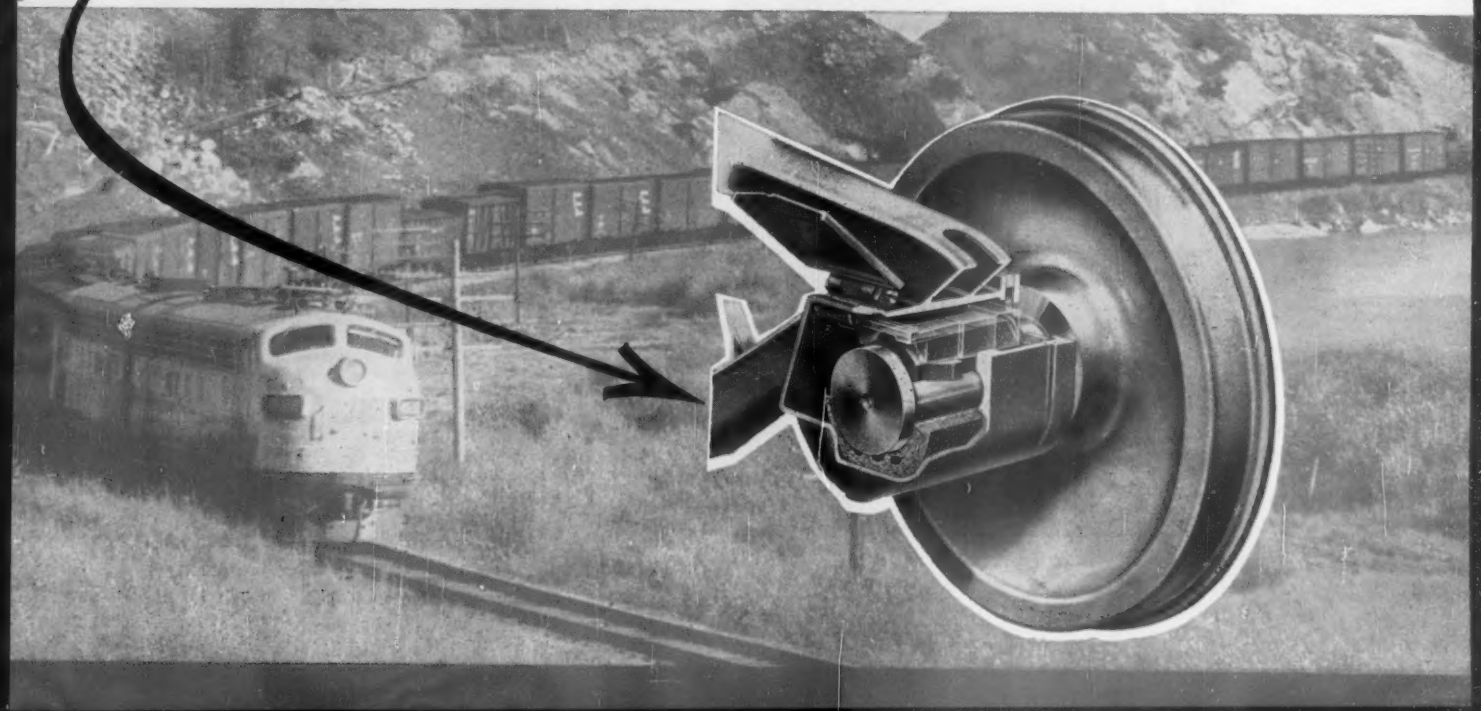
You owe it to your own operations to get the whole story. *Write, wire or phone for complete information.*



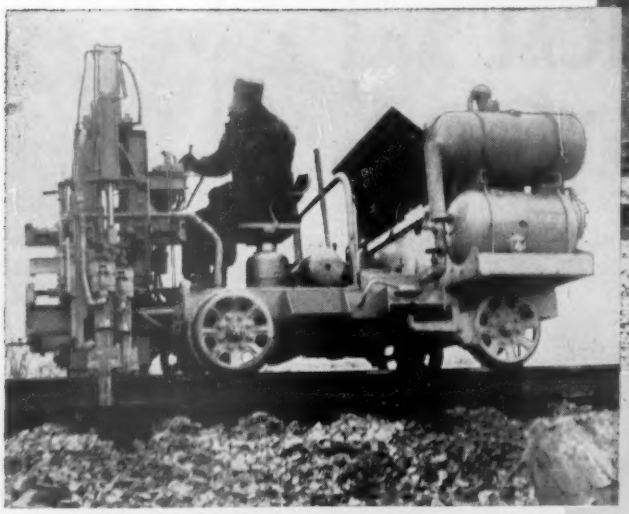
For Sales and Engineering Service
RAILROAD SUPPLY and EQUIPMENT, Inc.
CLARKS SUMMIT, PA.

O-Cel-O Division of General Mills Inc.
1200 Niagara St., Buffalo 13, N.Y.

Another Great General Mills Product

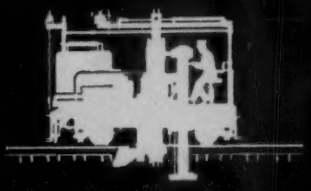


R.M.C. TIEMASTER replaces ties at a rate of one per minute, with minimum disturbance to the bed.



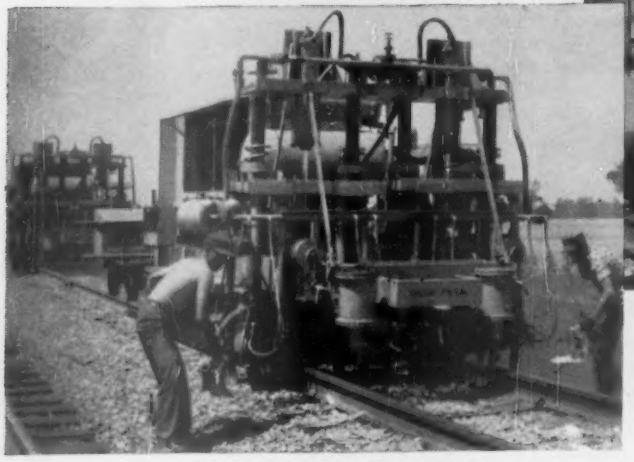
R.M.C. SPIKEMASTER spikes ties tightly against the rails, operating at better than six ties per minute.

This mechanized maintenance gang *cuts costs drastically*



1. R.M.C. TieMaster removing old ties and inserting new ones.

McWILLIAMS BALLAST DISTRIBUTOR places ballast in desired quantity and depth in exactly the proper position for tamping.



McWILLIAMS TIE TAMPER finish tamps any raise up to 6" at speeds up to 720 feet per hour.

R.M.C. LINEMASTER lines over 6,000 feet of track per day, using an operator and one man sighting. Produced in rail and crawler-mounted types.

Savings are SPECTACULAR!

with the right combination of Mechanized Maintenance Machines

2. R.M.C. SpikeMaster nipping up the ties and driving four spikes.

3. McWilliams Ballast Distributor placing ballast in perfect position for tamping.

4. McWilliams Tie Tamper with split head using controlled pressure to compact ballast under the ties.

5. R.M.C. LineMaster aligning the track by moving it horizontally in either direction.

McWILLIAMS SUPER MOLE cleans or excavates shoulder ballast, operating at speeds up to 2400 feet per hour.

Our experiences with Mechanized Track Maintenance Gangs show that the substantial cost savings offered by modern equipment can be multiplied . . . when machines are used in the right combination.

May we discuss this important new phase of mechanized track maintenance with you?

Railway Maintenance Corporation

PITTSBURGH 30, PA.

PIONEER IN MECHANIZED TRACK MAINTENANCE

New Progress on the NEW HAVEN

10 Rectifier-type Locomotives SKF Equipped for Trouble-Free Service

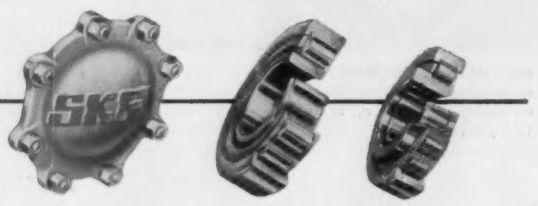
You'll see a lot of great things happening on the New Haven. There's a new spirit running all across the board in this progressive railroad. And one of the greatest improvements ever undertaken was the recent delivery of 10 high-speed G-E rectifier-type passenger locomotives operating from both AC and DC power sources over the road's electrified line between New York and New Haven, Conn. Every one of the 10 is 100% SKF equipped on journals.

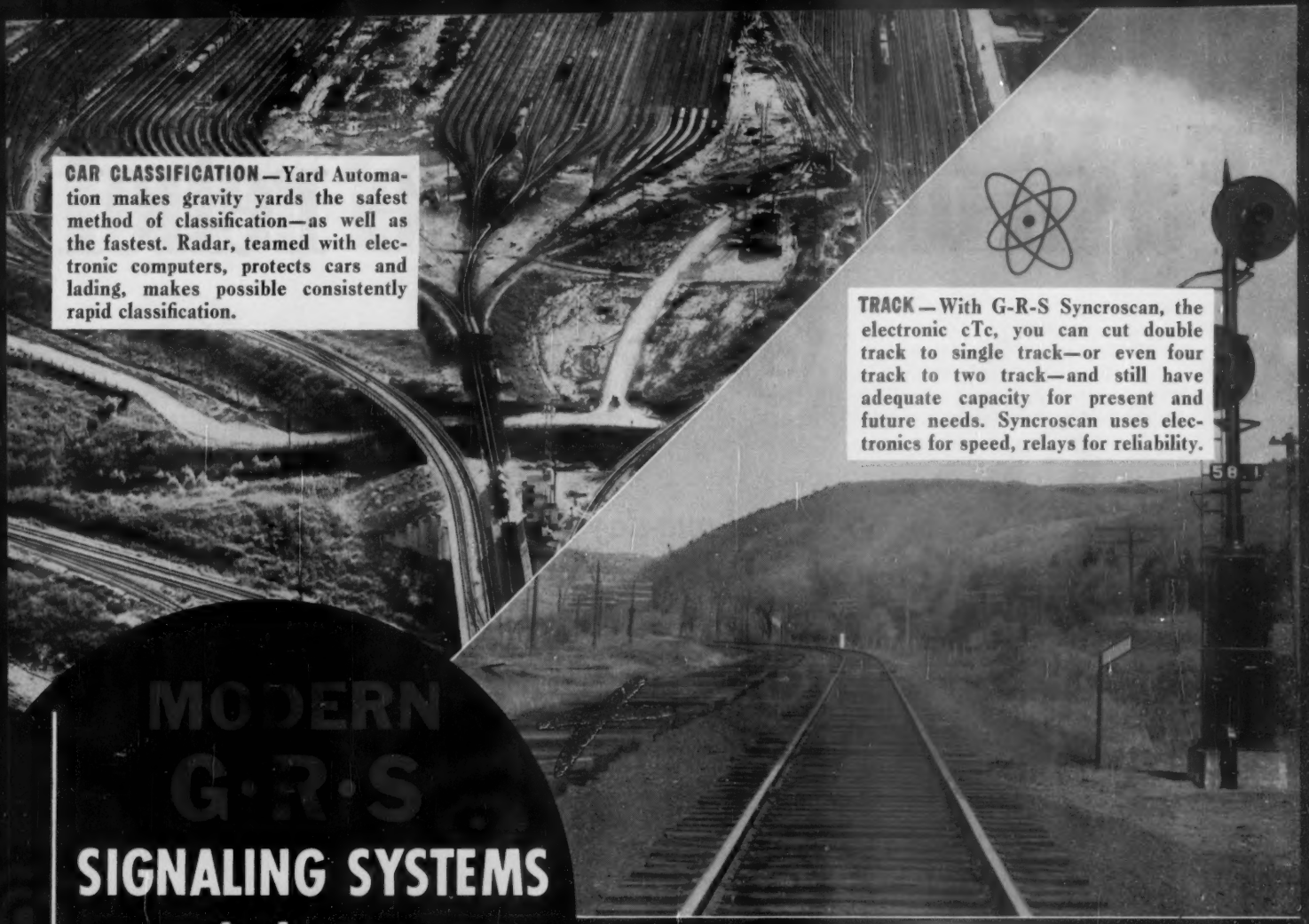
Depend on SKF's leadership—depend on SKF's uniform quality.

7692

SKF INDUSTRIES, INC., PHILADELPHIA 32, PA.,
manufacturers of SKF *and* HESS-BRIGHT® *bearings.*

SKF®
BALL AND ROLLER BEARINGS

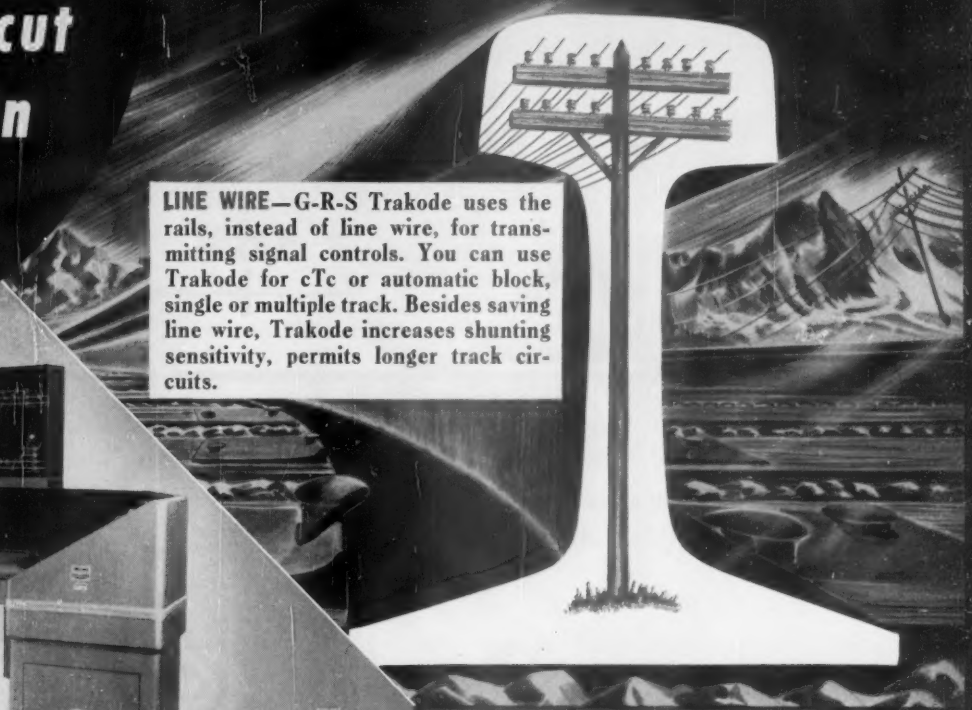




CAR CLASSIFICATION—Yard Automation makes gravity yards the safest method of classification—as well as the fastest. Radar, teamed with electronic computers, protects cars and lading, makes possible consistently rapid classification.

TRACK—With G-R-S Syncroscan, the electronic cTc, you can cut double track to single track—or even four track to two track—and still have adequate capacity for present and future needs. Syncroscan uses electronics for speed, relays for reliability.

MODERN G·R·S SIGNALING SYSTEMS *can help you cut these costs in '56*



LINE WIRE—G-R-S Trakode uses the rails, instead of line wire, for transmitting signal controls. You can use Trakode for cTc or automatic block, single or multiple track. Besides saving line wire, Trakode increases shunting sensitivity, permits longer track circuits.

CONTROL OFFICES—The G-R-S Traffic Master System scientifically integrates control facilities. With TMS, a single operator can handle more mileage, more traffic, more switches and signals, than ever before possible.

GENERAL RAILWAY SIGNAL COMPANY

ROCHESTER 2, N. Y. CHICAGO 1, ILL.
NEW YORK 17, N. Y. ST. LOUIS 1, MO.

New Progress on the NEW HAVEN

10 Rectifier-type Locomotives
SKF Equipped for Trouble-Free Service

You'll see a lot of great things happening on the New Haven. There's a new spirit running all across the board in this progressive railroad. And one of the greatest improvements ever undertaken was the recent delivery of 10 high-speed G-E rectifier-type passenger locomotives operating from both AC and DC power sources over the road's electrified line between New York and New Haven, Conn. Every one of the 10 is 100% SKF equipped on journals.

Depend on SKF's leadership—depend on SKF's uniform quality.

7682

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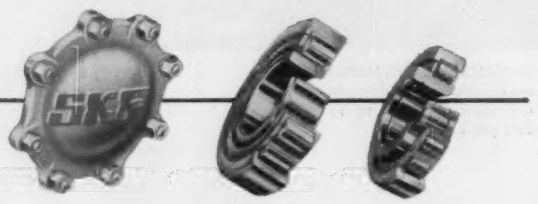
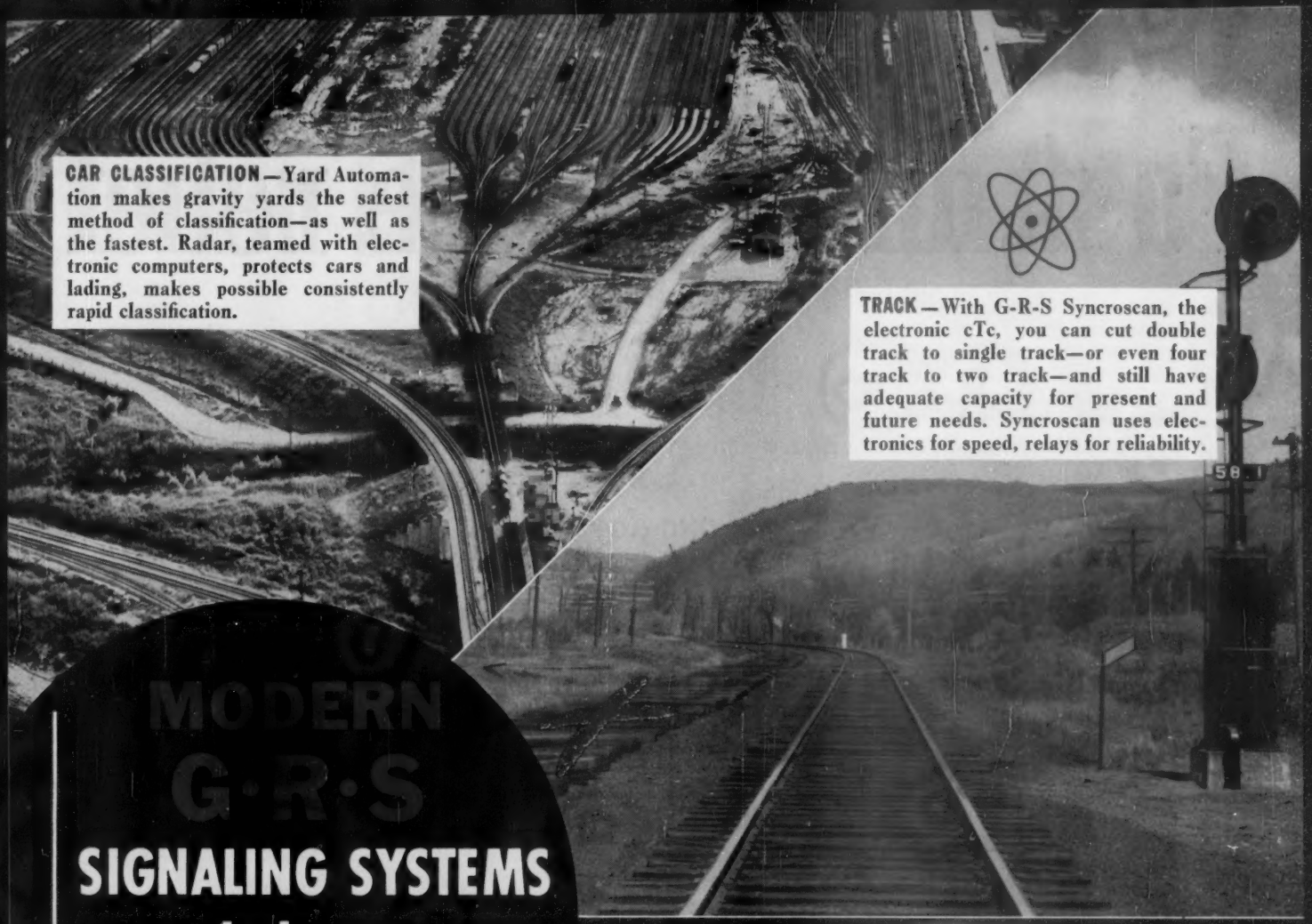
SKF®
BALL AND ROLLER BEARINGS



NEW YORK 17, N. Y. ST. LOUIS 1, MO.



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MODERN G·R·S

SIGNALING SYSTEMS *can help you cut these costs in '56*

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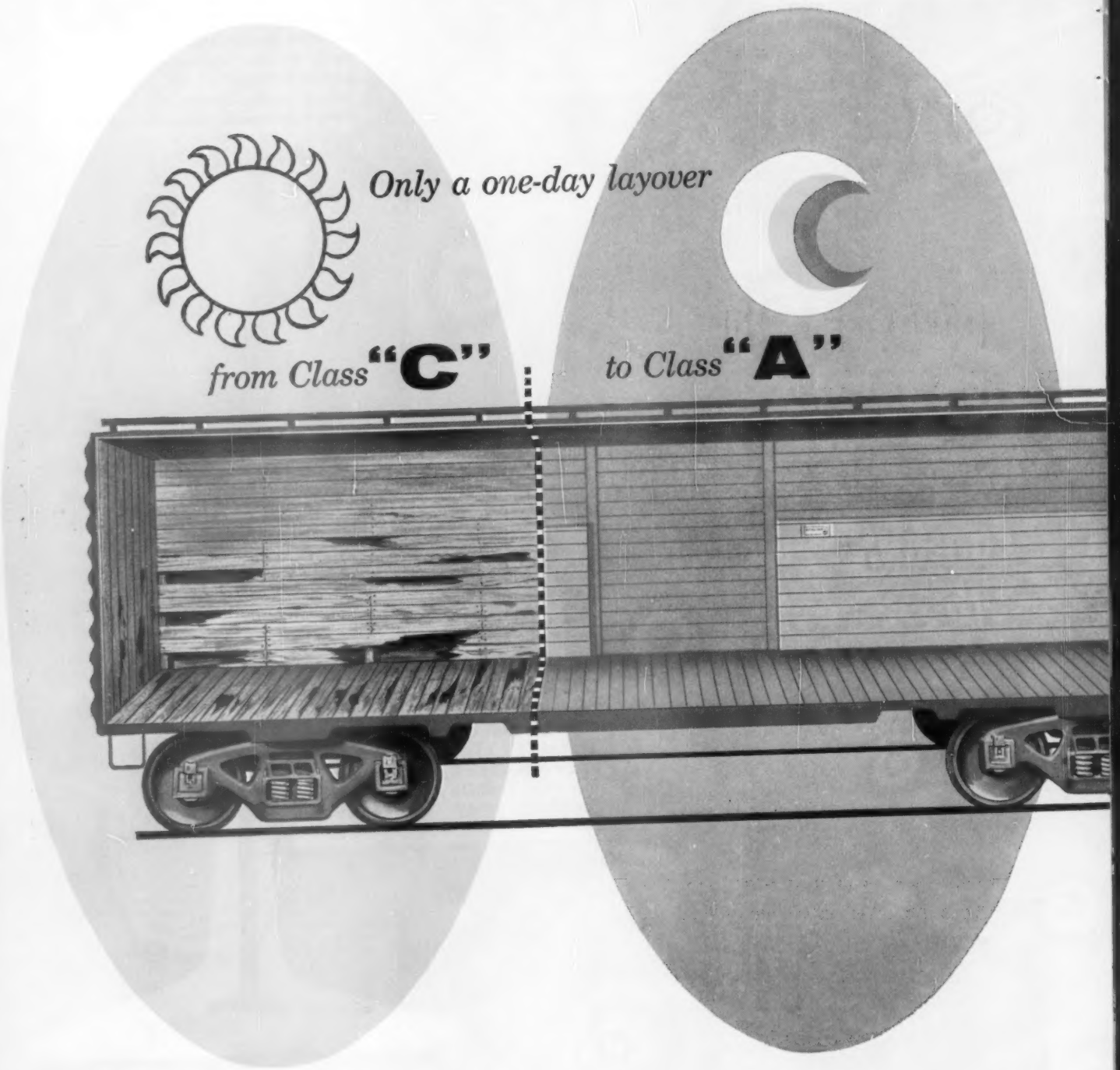
GENERAL RAILWAY SIGNAL COMPANY

ROCHESTER 2, N. Y. CHICAGO 1, ILL.
NEW YORK 17, N. Y. ST. LOUIS 1, MO.

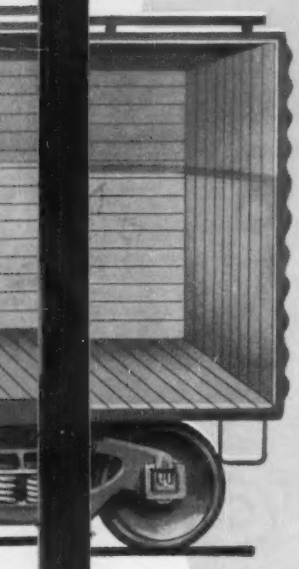
Fast, inexpensive relief



from the Car Shortage

low-cost

Espey



Carliner

makes

old cars

better

than new

At a cost so low it should easily come within present operating budgets, you can transform old cars into top-revenue carriers with *permanent* new Espey Carliner.

It goes on over splintered, but sound wood floors and lining—over cracks, gouges, oil spots—forms an *inseparable* lamination much stronger than wood. Seams, joints, and corners are sealed . . . warping and separation prevented.

Your shippers get what they want and need—good-looking, moisture-free, vermin-proof cars, completely safe for edible lading.

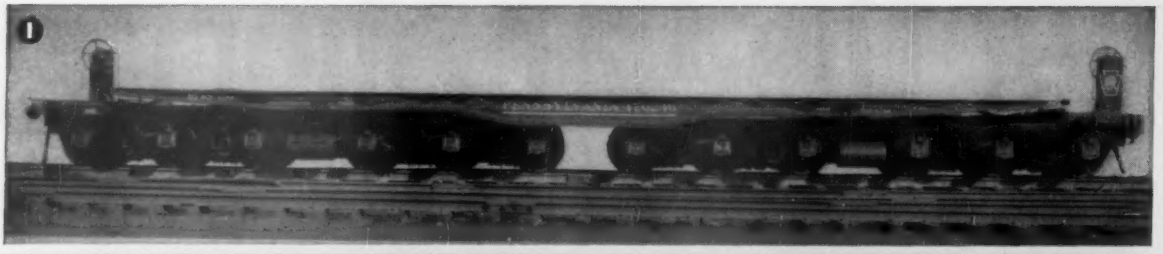
Ease of application, effectiveness in use, and increased car-earnings have all been demonstrated on *many* major roads. Espey Carliner surface-armor will serve you as nothing else can. Write for facts, today.

SPRING PACKING CORPORATION

MR. ESPEY ★ SPRING PACKING CORPORATION ★ MOLINE

For over 36 years

332 S. Michigan Avenue, Chicago 4, Illinois



1. **293-3/4-ton load limit** is a feature of this 58-foot flat car built at the Altoona shops of the Pennsylvania Railroad for extra-heavy and extra-large cargo.

2. **Big span bolster** notable for strength in shallow sections. Cast of 1.25% nickel, 1.50% manganese steel by Buckeye Steel Castings Co., Columbus.

3. **This 12-wheel truck** was designed by Buckeye Steel Castings Co. Distance between centers of the two trucks for 250-ton car is 29′-3″.

250-ton capacity car required cast nickel alloy steel to minimize height

Height reduced *to the absolute practical minimum.*

That was a basic requirement of this giant 12-axle flat car. Designed extra-long, it transports extra-large and heavy generators, turbines and other machines . . . assembled. Thus, it eliminates need to disassemble for shipment and reassemble at destination.

And it required cast nickel alloy steel to minimize height. For instance, by providing strength needed in a 10,500-pound, 22½-foot span bolster of unusually shallow section.

One of the largest bolsters ever made, it was cast in nickel-manganese steel to meet AAR Specification M 201, Grade C. And its properties exceeded these minimums:

Tensile Strength, psi		90,000
Yield Strength, psi		60,000
Elong. in 2″	%	22
Red. of Area	%	45

This cast nickel steel also provided the strength needed in the car's two smaller truck bolsters, and in the couplers.

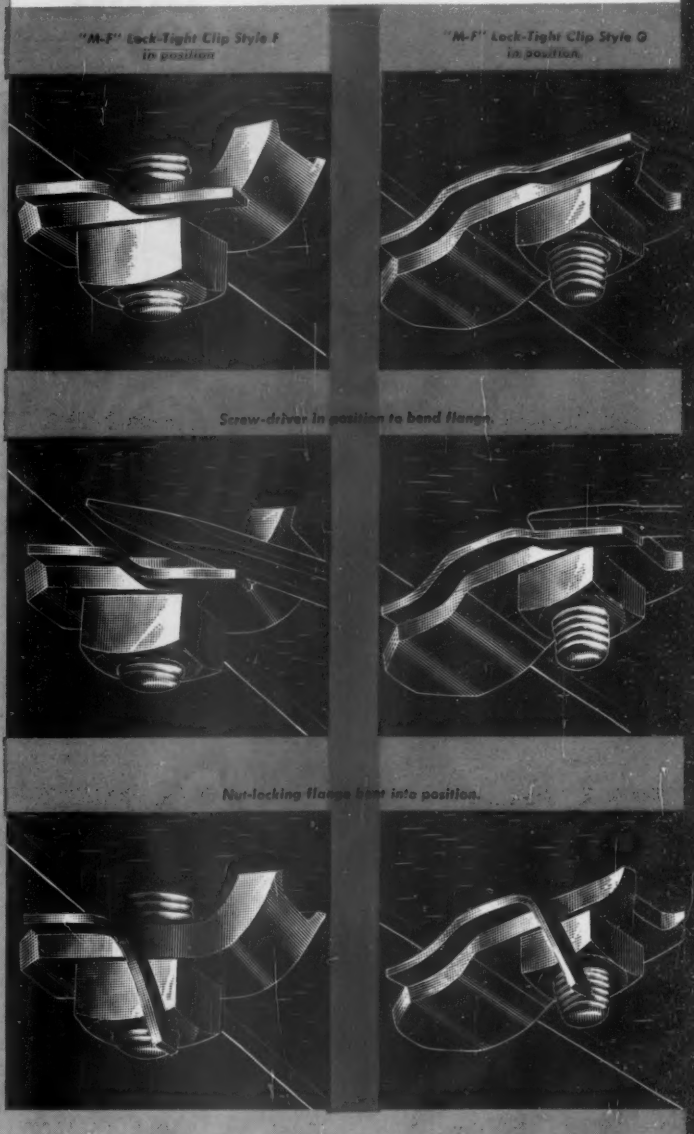
No matter what your metal problem, we'll be glad to help you with our wide practical experience in this field. Send the details of your difficulty, for our suggestions. Write us now.

INCO TRADE MARK **THE INTERNATIONAL NICKEL COMPANY, INC.** 67 Wall Street New York 5, N. Y.

Why drill the sill?

STYLE F *(Bridge Type)*
Style F Clip will clamp the sill more tightly because the bolt is closer to the sill. It can also absorb variation in offset better than Style G.

STYLE G *(Offset Type)*
This Clip has one great advantage . . . no matter what the sill condition, the floor bolts are always the same length. This advantage becomes increasingly great when the offset becomes large.


"M-F" Lock-Tight Clip Style F in position
"M-F" Lock-Tight Clip Style G in position
Screw-driver in position to bend flange.
Nut-locking flange bent into position.

ONLY ONE HOLE NEEDED WITH

M·F FLOOR CLIPS

DRILL HOLES FROM ABOVE—AND FARTHER FROM BOARD END—stronger sills, stronger boards!

M-F Floor Clips not only cut costs and speed new car construction, but when boards are *added*, there are *no new* holes to drill, *no new* bolts required, *no old* holes to plug!" . . . always drilled on the board center-line, prevents warping or tipping. *Re-use* the same clip throughout the life of the car!

USE THE M-F Water-Tight Bolt for a smooth floor surface and maximum bolt tension.

MAC LEAN-FOGG
Lock Nut Company

5535 NORTH WOLCOTT AVENUE, CHICAGO 40, ILLINOIS
In Canada: THE HOLDEN CO., LTD., MONTREAL

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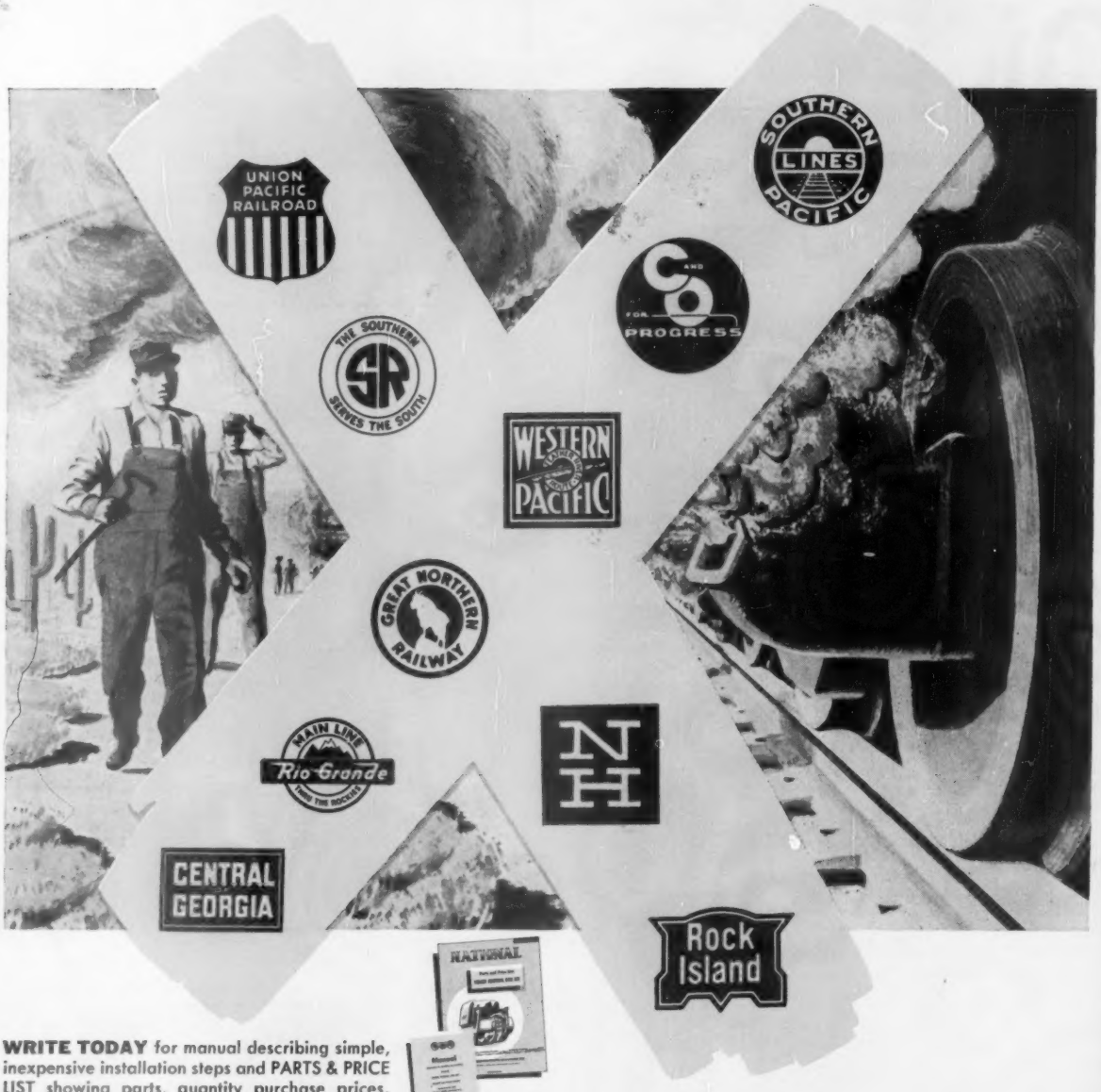

WRITE TODAY for manual describing simple, inexpensive installation steps and PARTS & PRICE LIST showing parts, quantity purchase prices. Sent immediately; no obligation.

For complete information or consultation at your headquarters, write or telephone nearest NMB Railway Equipment Division Office.

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NATIONAL MOTOR BEARING CO., INC.

GENERAL OFFICES: Redwood City, California
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NATIONAL
OIL & GREASE SEALS
O-RINGS SHIMS

NMB has manufactured tens of thousands of oil seals for roller bearing cars and over 1,000,000,000 oil seals for AUTOMOBILES • TRUCKS • TRACTORS • AIRCRAFT • MACHINES • HOUSEHOLD APPLIANCES

Economic Answer to Hot Boxes

Alert officials on these and other railroads are proving the
NMB JOURNAL BOX LUBRICATING SYSTEM*
is the practical solution!

PROVE IT YOURSELF—MAKE THIS TEST

Equip 10 test cars with the NMB System. Prove conclusively to yourself that the NMB System is the practical solution to hot boxes.

Operate under your most unfavorable conditions. Bearing end wear will be cut to an unbelievable 0.0006" per 1,000 car miles. Inspection will be required only once a month. Oil consumption will drop to about 1 oz. per 1,000 journal box miles. Hot boxes will be virtually eliminated!

The NMB Sealed Journal Box Lubricating System can achieve these results because it provides *positive* sealed oil bath lubrication of bearings at all speeds, while thoroughly excluding foreign matter from the journal box.

The exclusive NMB Oil Circulator lubricates bearings with ½ turn of the axle and causes bearings to run 50° cooler. The rear oil seal and leak-proof lid retain oil while excluding dirt, water, brine and snow. Journal guard bearings prevent impact damage to journals during humping, coupling, starting or heavy braking.

Installation is made in standard A.A.R. journal boxes. NMB Systems for 5" x 9", 5½" x 10" and 6" x 11" journal boxes can be shipped promptly.

- USES "LONG" SOLID BEARINGS
- QUICKLY INSTALLED WITHOUT ALTERATION
- ELIMINATES ALL HOT BOXES DUE TO INADEQUATE LUBRICATION
- REDUCES OIL CONSUMPTION 90%
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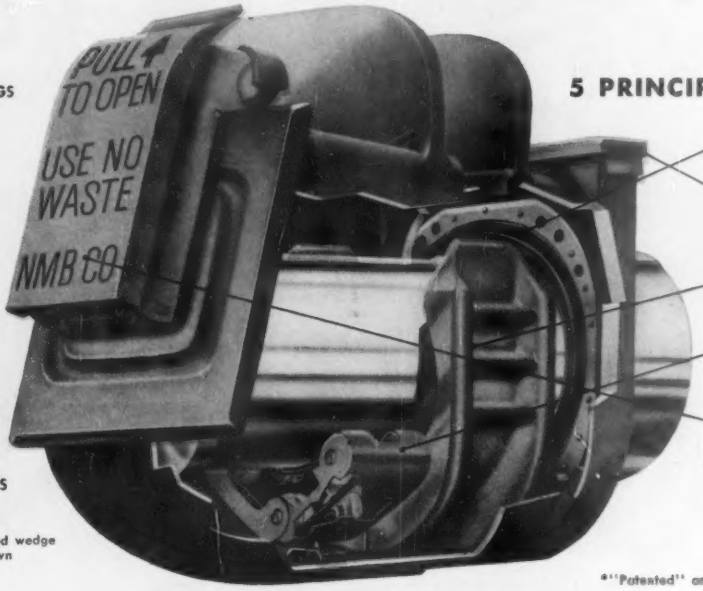
- RUNNING TEMPERATURES AVERAGE 50° COOLER UNDER FULL LOAD AT 60 MPH
- ELIMINATES VIRTUALLY ALL ACCIDENTS DUE TO HOT BOXES



Brass and wedge not shown

5 PRINCIPAL PARTS

A. OIL SEAL
B. DUST GUARD WELL COVER AND FILTER
C. JOURNAL GUARD BEARINGS
D. FREE-OIL CIRCULATOR
E. JOURNAL BOX LID AND WAFFLE GASKET

*"Patented" and "Patents Pending" 3078

How the C&O plans "one-shot paperwork" with UNIVAC®

The Chesapeake and Ohio Railway, by installing a Remington Rand Univac, is helping to show industry how to shed its burden of paper records – which in the case of a big company like C&O can run to a billion pieces a year. With its electronic computing speed, Univac will give management the facts it needs *when* it needs them. With Univac's exclusive self-checking features, C&O knows the facts will be correct.

Ultimate goal of the C&O is what it calls "one-shot paperwork." That is, the basic information from a source document such as the waybill will be prepared just once, and fed into the computing system. From that point on, this data will be processed electronically – used and reused throughout the organization . . . available to every department that needs it. And most important, management will have fast and accurate data, some of it never before available, on which to base decisions.

Thus the C&O is introducing a new era in railroad administration . . . an era in which electronics will help free the railroads from the costs of a crushing paperwork burden and the inadequacies of conventional, slow-moving, business-data systems. With the Univac System, the watchword will continue to be "C&O For Progress."

Remington Rand Univac

DIVISION OF SPERRY RAND CORPORATION

Carry more tonnage in less space with Greenville's special "long haul" ore car!

One hundred of these special 70-ton ore cars can carry 8300 net tons of iron ore and take up 2717 feet of track. Compare this with 100 70-ton all-purpose hoppers that carry only 8000 net tons and yet occupy 4417 feet of track!

The Greenville-designed cars have important advantages for the steel companies, too. In mill yards where track space is limited, these short-coupled cars take 40% less space than conventional hoppers.

Lading can be discharged directly over ore bins through a special drop-bottom door, thus eliminating car dumper and larry car operations.

These efficient special cars are a typical result of the sound creative engineering service you'll find at Greenville. Whatever your freight car needs, Greenville designers can help you develop the rolling stock that's right for the job. Phone or write for more information now.

Features of this 70-ton ore car

- Increased cubic capacity—1096 cubic feet
- Accommodates standard draft gear and couplers
- Bottom dumping directly over ore bins
- Floor sheets—50-degree slope
- Poke holes for steam thawing
- Air brake hose in standard AAR location
- More space between wheels for trainmen
- Drop door mechanism may be operated from either side of car

GREENVILLE STEEL CAR COMPANY

GREENVILLE

SUBSIDIARY OF PITTSBURGH FORGINGS COMPANY

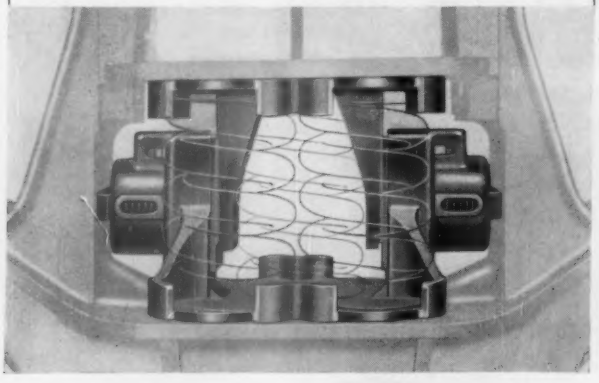
PENNSYLVANIA

*Pat. Pend.

. . . PASSES MOST RIGID TESTS

No special springs required. Uses standard A.A.R. 2½" Travel, Coil Springs.

No welding; no labor. Simply slip in the complete package.



For several months, the Holland Ride Stabilizer Package has been giving a very good account of itself in actual service, under some of the most severe conditions that a freight car can undergo.

Holland Ride Stabilizer Packages are in daily service in refrigerator cars of a major railroad line. Here, these "packages" encounter salt brine dripping and other extremely corrosive conditions far more severe than are met in the usual freight car operation. Full details of the tests and the "package" will be gladly sent on request.

HOLLAND COMPANY

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"Safety" GENEMOTORS and CONTROLS

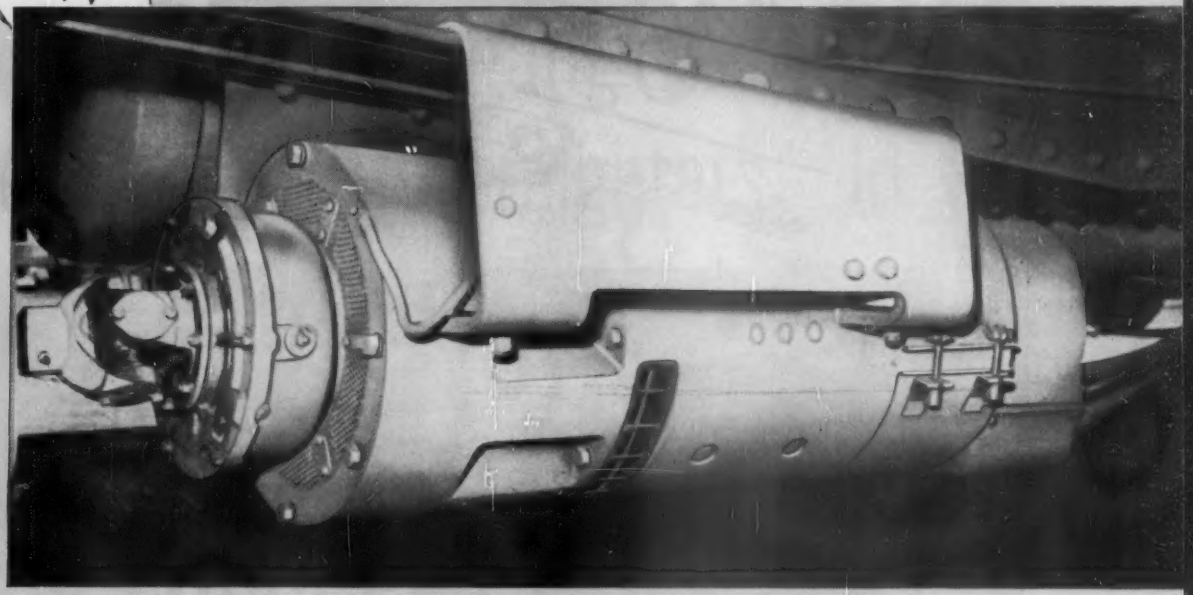
are standard equipment on railroads throughout the United States, Canada and Mexico . . .

"Safety" Genemotors and Control Equipment provide . . .

- constant voltage power for all air conditioning, electrical equipment and battery charging while cars are en route
- standby power in excess of requirements for pre-cooling cars and battery charging

"SAFETY" GENEMOTORS . . .

- incorporate an automatic polarity reversing switch thus eliminating maintenance of an additional generator, necessary when an exciter is used
- provide full output at low speeds assuring quick power availability for recharging low batteries



Typical installation of a "Safety" Genemotor . . . one of thousands in railroad service.

"SAFETY" CONTROL EQUIPMENT . . .

- maintains constant voltage regulation and positive current limit for maximum genemotor protection
- requires only three connections between regulator and genemotor
- is compact and automatic . . . requires minimum locker space
- is simple in design and requires little maintenance thus reducing labor costs to a minimum

Thousands of "Safety" Genemotors and Control Equipment applications on railroads throughout the United States, Canada and Mexico are actual proof of unparalleled performance in service.

"Safety" Genemotors are available in capacities of 25, 30 and 35 kw and in 40, 80 and 140 volts nominal ratings, with 20 or 32 HP AC, 60 cycle, 220 volt motors . . . 12 to 20 kw output on standby.

THE SAFETY CAR HEATING AND LIGHTING COMPANY INC.

NEW YORK · CHICAGO · PHILADELPHIA · ST. LOUIS · SAN FRANCISCO · NEW HAVEN · MONTREAL

SAFETY COMPANY PRODUCTS INCLUDE: Air-conditioning Equipment • Genemotors • Generators • Fans • Regulators • Blower Units Lighting Fixtures • Switchboards • Luggage Racks • Motor Alternators • Dynamotors • Motor Generators • Dual Voltage MG Sets

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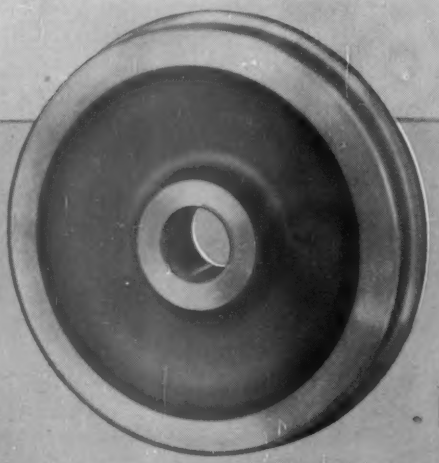
We will be glad to send you enlarged copies of this Hungerford cartoon (without advertising copy) for posting on your office and shop bulletin boards, or a cut for your company magazine, at cost.



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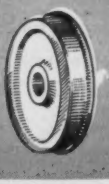
Rolled Steel Tires

Rolled Steel Wheels 

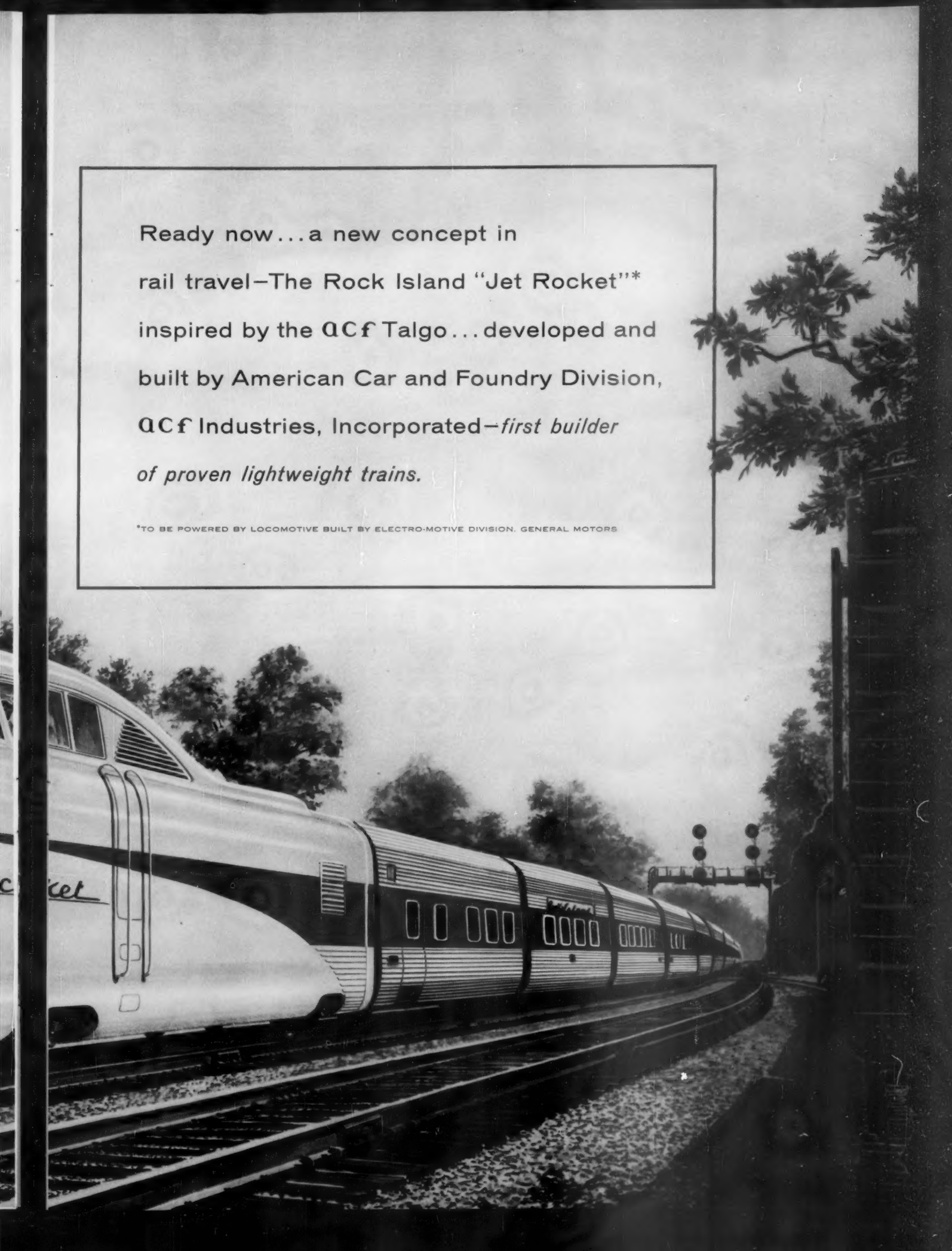
Railroading was leisurely at the turn of the century. A common remark then was "A chalk line and 30 days is the best bumping post." This involved slow switching and track end derailments, but neither a switching crew nor a track gang cost much. There were no "overnighters." In 50 years things have changed. To keep costs down you need alert switching. Hayes bumping posts and wheel stops are made to switch against; they will help your operating ratio.

Hayes Track Appliance Co., Richmond, Indiana

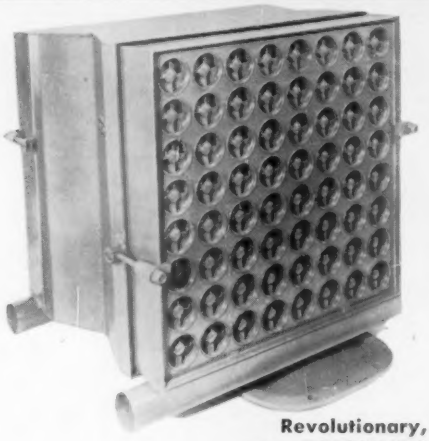
Rock Island
Let Roc

Ready now... a new concept in rail travel—The Rock Island "Jet Rocket"* inspired by the ACF Talgo... developed and built by American Car and Foundry Division, ACF Industries, Incorporated—*first builder of proven lightweight trains.*

*TO BE POWERED BY LOCOMOTIVE BUILT BY ELECTRO-MOTIVE DIVISION, GENERAL MOTORS

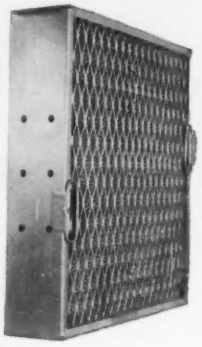


Standard on American Railroads – FAR-AIR* Filtration Equipment



Revolutionary, new ROTONAMIC air cleaner assembly

Self-cleaning centrifugal type air cleaner for engine air operates with constant high efficiency over a wide range of dust concentrations and loads. Requires no maintenance and does not load with dirt. Rugged road testing has resulted in an impressive record of proved efficiency.

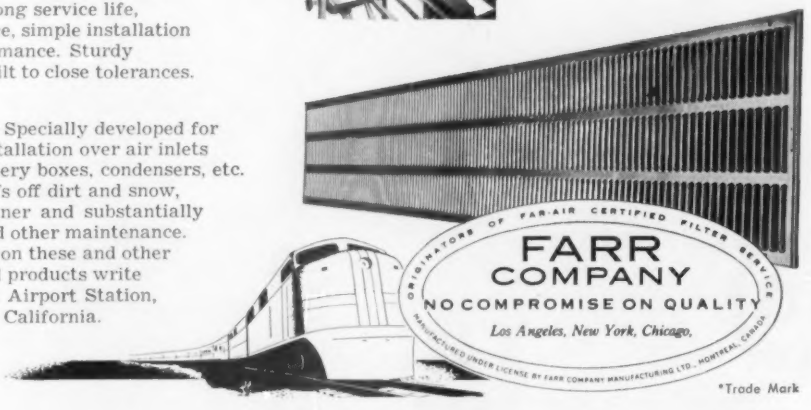


FAR-AIR panel filter: Major American railroads use FAR-AIR panel filters as standard for engine, carbody and passenger car air handling systems. Herringbone-crimp media design assures greater dirt holding capacity, lower pressure loss and less maintenance expense. Product strength and uniformity assures longer service life.

Automatic filter washer and oiler: saves up to 67% in maintenance costs when as few as 100 filters are cleaned per day. Equipment is automatic and permits immediate re-use of filters. Available in 2 sizes.

Diesel engine filter assemblies, air compressor filters and oil separators: Units for these applications are available for all standard locomotives. Each is engineered for long service life, easy maintenance, simple installation and high performance. Sturdy construction, built to close tolerances.

Dynamic grille: Specially developed for railroads for installation over air inlets in car body, battery boxes, condensers, etc. It efficiently buffs off dirt and snow, keeps units cleaner and substantially reduces filter and other maintenance. For information on these and other FAR-AIR railroad products write P. O. Box 45187, Airport Station, Los Angeles 45, California.


ORIGINATORS OF FAR-AIR CERTIFIED FILTER SERVICE
FARR COMPANY
NO COMPROMISE ON QUALITY
Los Angeles, New York, Chicago,
MANUFACTURED UNDER LICENSE BY FARR COMPANY MANUFACTURING LTD., MONTREAL, CANADA

*Trade Mark

SAND THE TRACKS . . . NOT THE BEARINGS

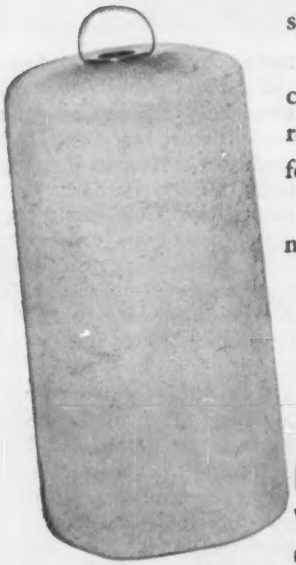
IN A SINGLE RUN FROM NEW YORK TO CHICAGO A DIESEL ENGINE CAN PICK UP ENOUGH GRIT . . .

to ruin it!

The GRIT is there . . . the engine picks it up . . . NOW, IT'S UP TO THE FILTER TO CONTINUOUSLY REMOVE IT! Abrasive substances are the enemy of operating costs and operating schedules. In bad weather they're useful on the *tracks,* but in lubricating or fuel oil—they spell disaster.

WIX Oil Filter Cartridges are the sound answer to the menace of oil contamination. WIX has studied the problem . . . conducted the continuous research to KNOW the answers . . . engineered filter cartridges specifically for railroad diesel service to provide maximum "engine-wear insurance."

Write for the WIX Railroad catalog and particulars on how you, too, may have a specialized study made on your oil filtration problems.



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ENGINEERED FILTRATION

WIX CORPORATION • GASTONIA, N. C.

Warehouses

GASTONIA • NEW YORK • DES MOINES • SACRAMENTO • ST. LOUIS

WIX CORPORATION
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Please send catalog and particulars on your special oil filtration study.

Name_____

Company_____

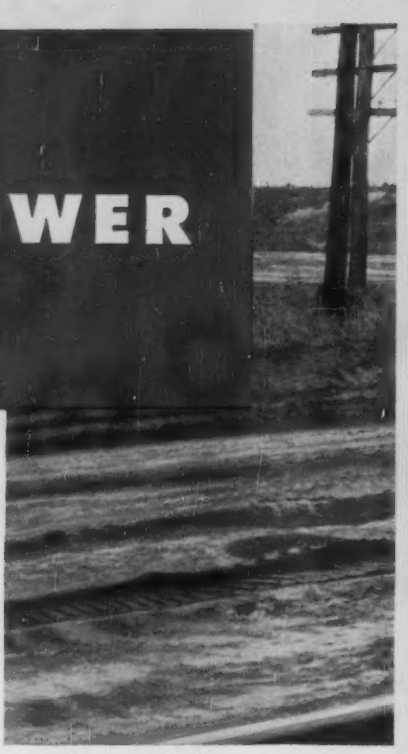
Address_____

City_____ Zone____ State____

A PICTURE REPORT OF

INTERNATIONAL POWER

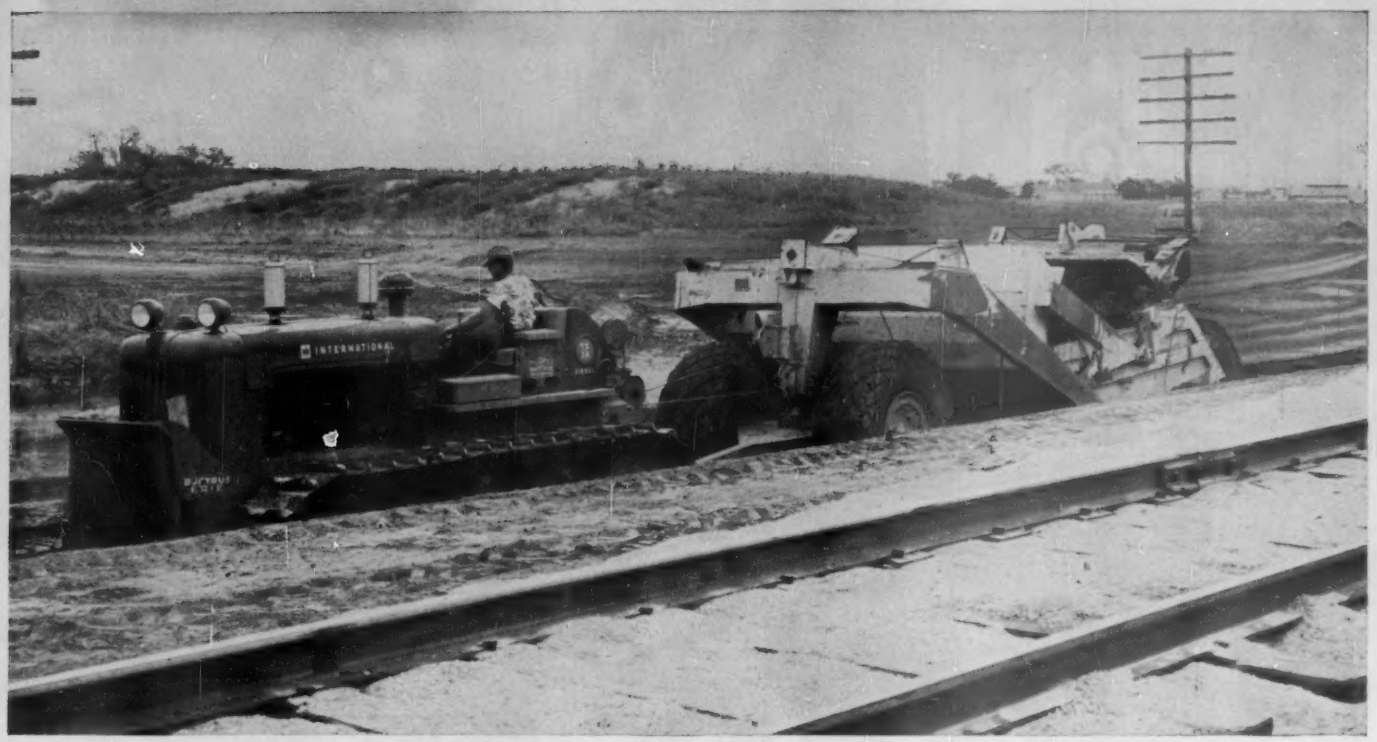
Boosting job production everywhere



Rolls 65,000 yds in 20 days—Compacting fill was job assigned this 59 dhp WD-9 tractor, biggest of the 6 wheel-type utility tractors made by International. 65,000 yds took 20 days. Photo was taken on same Missouri Pacific RR job as shown at right—raising grade for approach to new bridge in Wichita.

For utility work in your yard or along the right-of-way, new International 300 can be equipped to do almost any task. Here, rig loads trucks to be used on "piggy-back" service. With other attachments, the "300" pulls baggage carts, mows grass, cleans ditches, repairs small washouts, plows snow, digs post-holes, etc. Rig has 10 speeds forward to 16.7 mph, develops 4,379 lbs pull.

Builds 400-ft railroad spur in 2 days—Along the Southern RR line at Doraville, Georgia, TD-14A and 10-yd scraper needed only 20 hours to self-load and move 4,000 cu yds for 400-ft spur. Said Job Supt H. S. Gilleland, "This is our 14th TD-14 in 10 years—and the best yet! Easy to maneuver, plenty of power, cool operation, and the controls are in easy reach."



Raising 1½ mi of track for the Missouri Pacific Railroad near Wichita, Kansas, this TD-24 regularly self-loaded side-boarded scraper with 25 cu yds. With hauls averaging ¾ mi one-way, 2 of these tractor-scraper teams completed the 65,000-yd job in 20 calendar days. Supt Barney Bucheit reports the older TD-24 worked 6,000 hours on all jobs before tracks needed changing.

Ripping out 150 yds of concrete in front of a Camden (N. J.) station was a job too tough for a ¾-yd shovel, according to engineers. This International Drott® TD-14A, however, did the work unassisted. Unit's tremendous break-out force, 17,000 lbs, broke up the slab . . . even tore out 5-ft concrete footings.

"Ideal for dozing rock," is report on this TD-14A used in Iowa for shovel and quarry-floor clean-up. "Performance is excellent," says Supt, and "downtime way down. This is due partly to rugged construction, partly to prompt service from our IH distributor." Quarry produces 200 tons of 1-inch stone per hour.

International

makes every load a pay load

INTERNATIONAL HARVESTER

Industrial Power

A machine size for every job . . . see your nearest INTERNATIONAL DISTRIBUTOR for details.

PAYSCRAPERS . . . 11 yds. and 18½ yds.

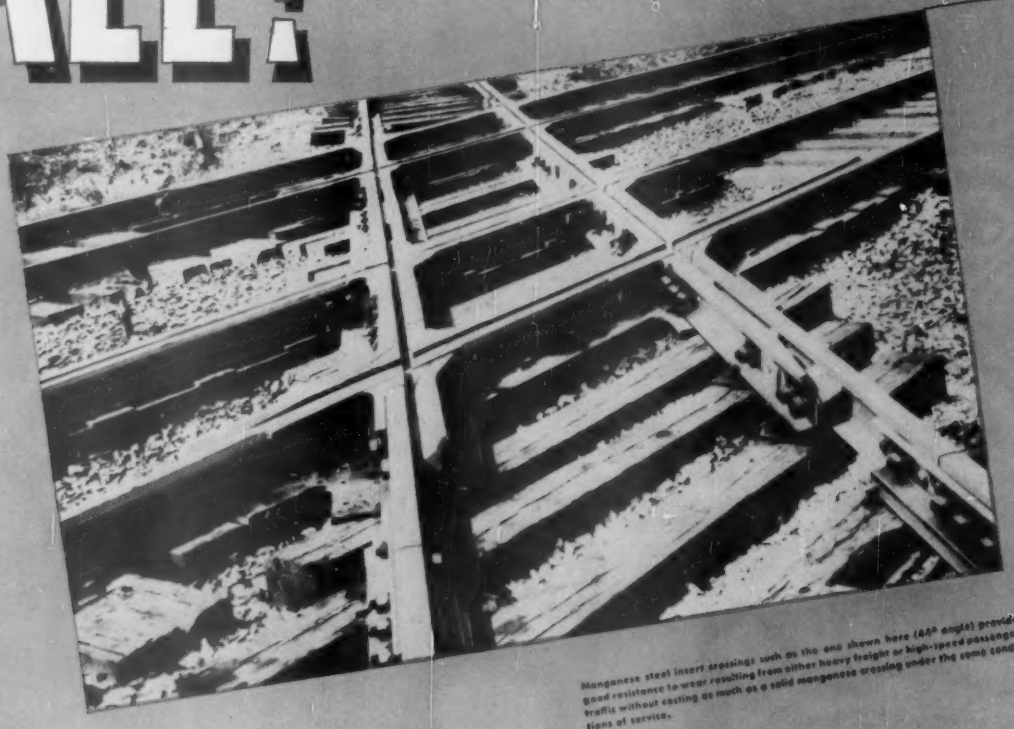
CRAWLER TRACTORS . . . 8 Models . . . 40 to 200 fb.

DIESEL, GAS ENGINES . . . 28 Models . . . 16½ to 208 hp.

WHEEL TRACTORS . . . 6 Models . . . 9 to 59 dbp

ALSO: International Drott Loaders . . . International Scrapers, Bottom-Dump Wagons . . . and International Superior Pipe-Boom Tractors.

FREE! NEW U.S. STEEL



Manganese steel insert crossings such as the one shown here (4½° angle) provide good resistance to wear resulting from either heavy freight or high-speed passenger traffic without resting as much as a solid manganese crossing under the same conditions of service.

22

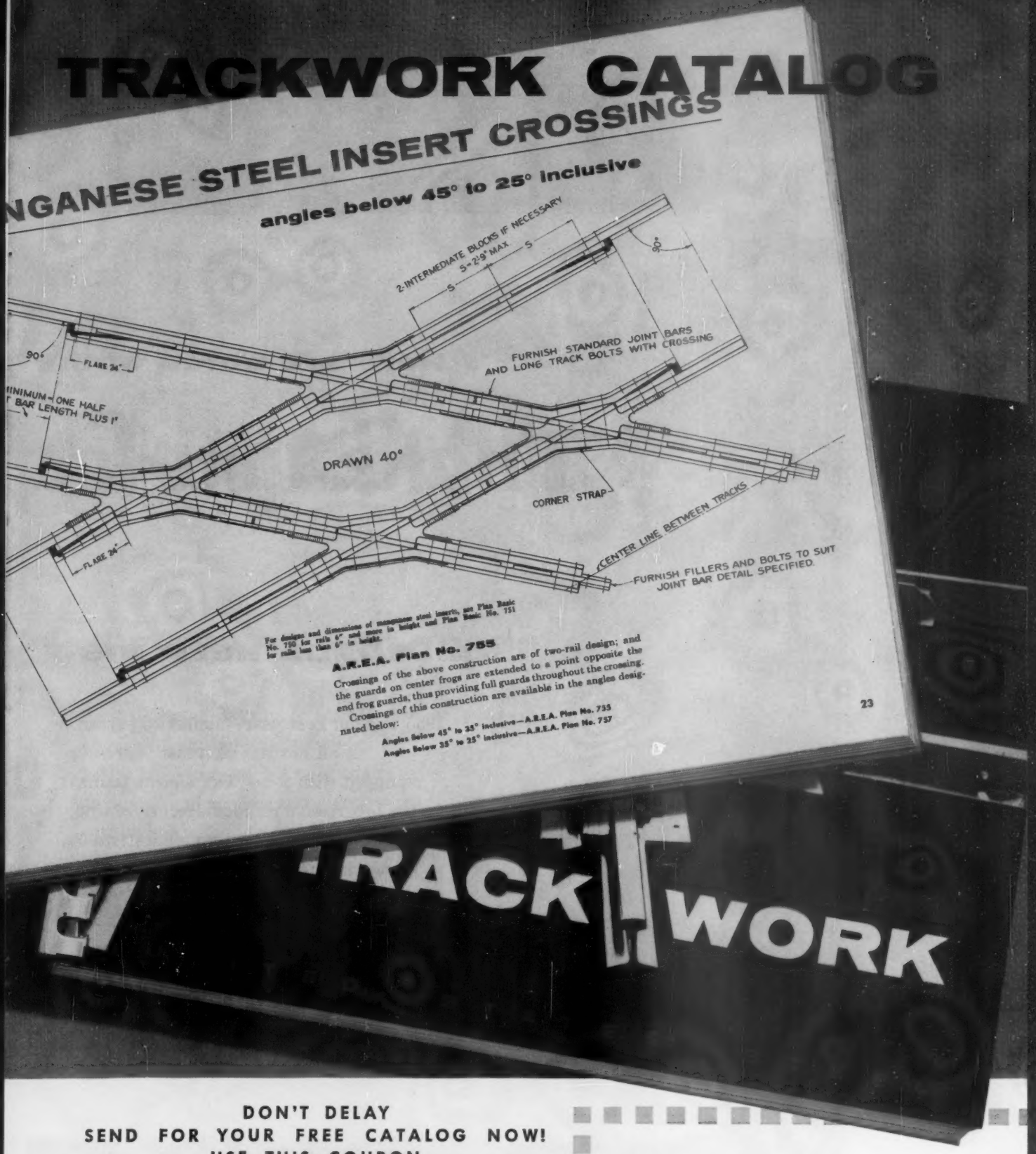
Contains data, photographs, and diagrams on USS TRACKWORK products

This 128-page "USS TRACKWORK" catalog consists of five sections:

1. **INTRODUCTION**—describes the care and control that goes into the manufacture of quality trackwork.
2. **CROSSINGS**—offers full information on Bolted Rail Construction, Manganese Steel Insert Construction, Solid Manganese Steel Construction; photographs of assembled structures plus detailed diagrams bearing angles and dimensions.
3. **FROGS**—contains complete photographs, descriptions, numbers, angles, and diagrams of all U.S. Steel Frogs and Tie Plates.
4. **SWITCHES**—complete listings of many types of switches made by U.S. Steel, plus Switch Points, Slide Plates and Braces, Switch Stands, Switch Rods and Clips, and Industrial Turnouts. Photographs and detailed diagrams included.
5. **MISCELLANEOUS**—lists parts nomenclature, ordering information, weights, mathematical details of structures, etc.

UNITED STATES STEEL

TRACKWORK CATALOG


NGANESE STEEL INSERT CROSSINGS
angles below 45° to 25° inclusive
2-INTERMEDIATE BLOCKS IF NECESSARY
S = 2'-9" MAX.
S
S
50°
FURNISH STANDARD JOINT BARS AND LONG TRACK BOLTS WITH CROSSING
90°
FLARE 24"
MINIMUM - ONE HALF BAR LENGTH PLUS 1'
DRAWN 40°
CORNER STRAP
CENTER LINE BETWEEN TRACKS
FLARE 24"
FURNISH FILLERS AND BOLTS TO SUIT JOINT BAR DETAIL SPECIFIED.
For designs and dimensions of manganese steel inserts, see Plan Basic No. 750 for rails 6" and more in height and Plan Basic No. 751 for rails less than 6" in height.
A.R.E.A. Plan No. 755
Crossings of the above construction are of two-rail design; and the guards on center frogs are extended to a point opposite the end frog guards, thus providing full guards throughout the crossing.
Crossings of this construction are available in the angles designated below:
Angles Below 45° to 25° inclusive—A.R.E.A. Plan No. 735
Angles Below 35° to 25° inclusive—A.R.E.A. Plan No. 737
23

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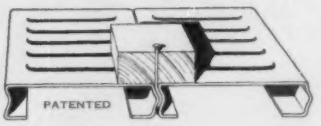
RAILROADS HELP N-S-F*

1955 was our best year—almost 50 percent of all boxcars built last year were equipped with N-S-F! Our sincere thanks to the progressive railroad executives who, by allowing our representatives to work with them, made this possible.

NAILABLE STEEL FLOORING is made of low-alloy N-A-X HIGH-TENSILE steel—remarkably strong, corrosion resistant—formed into channels, and welded together to form a unique nailing groove. Nail is clinched in tight grip of steel, yet can be readily removed.



railroads now using N-S-F*. . .

our greatest year!

N-S-F* HELPS RAILROADS

Executives tell us reduced maintenance costs—along with stronger underframing and better blocking—enable railroads to save on operating expenses and give greater customer satisfaction. We look forward to being of ever-increasing service in 1956.

*N-S-F—NAILABLE STEEL FLOORING
Made and sold only by

STRAN-STEEL CORPORATION

Ecorse, Detroit 29, Michigan • A Unit of

NATIONAL STEEL CORPORATION

55-SS-1A

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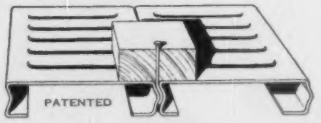

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YOU TOO CAN SAVE MONEY WITH . . .

Lewis Sealtite RAILROAD FASTENERS

"ZINC BOLTS CUT COSTS"
We are hearing it more and more, "Zinc bolts save money." More railroads are using Sealtite Double-Life, Hot-Dipped, Sealed in Zinc, galvanized bolts. They add years of life, cut costs by retarding rust and corrosion. Ask about them.
SEALTITE HOOK BOLT

More than 85 per cent of the nation's No. 1 railroads use Lewis Sealtite products—because the extra features save them money.

•

Each Sealtite bolt and nut is precision designed to do its particular job better. Every Sealtite product is hot forged from uniform special quality steel.

•

All Sealtite products are made in the USA to meet or exceed ASTM specifications.

A FEW OF THE MANY RAILROADS USING SEALTITE PRODUCTS

OTHER FEATURES THAT SAVE YOU MONEY

FLUSH WITH SURFACE
Sealtite pulls up to a "level with surface" fit without counter sinking.

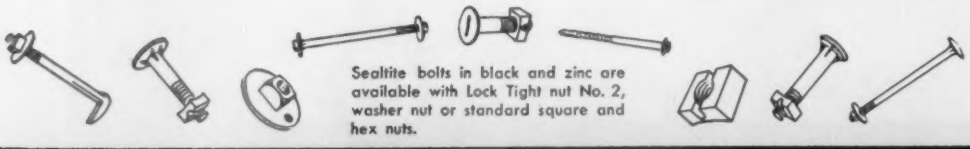
PERFECT FIT
Shank diameter thread to head is exact. No air pockets, no corrosion.

NO SPLINTERS
Sealtite scientific design compresses without raising surface splinters.

PATENTED FINS
For full bearing strength without tearing or splitting wood.

MOISTURE TIGHT
Sealtite tapered, beveled edge forms perfect water tight seal.

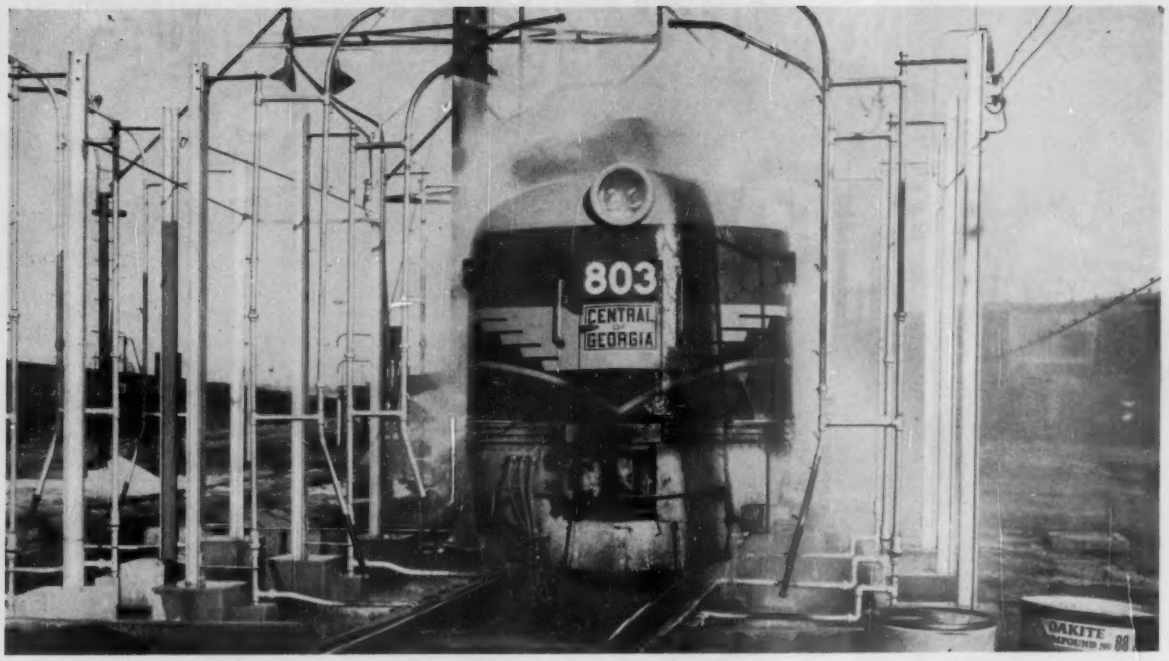
ACCURATE THREADING
A spinning fit on each bolt offers easy, fast installation.



Sealtite bolts in black and zinc are available with Lock Tight nut No. 2, washer nut or standard square and hex nuts.

Lewis BOLT & NUT COMPANY

504 Malcolm Avenue S. E. • Minneapolis 14, Minnesota

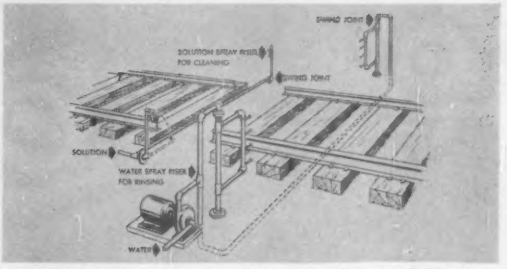


Original pressure-spray cleaning by Oakite cuts equipment-washing costs

Almost TEN years ago, Oakite FIRST pioneered the so-called pressure-spray system of cleaning and rinsing locomotive running gear and passenger cars. Today, many leading railroads are using this dependable Oakite system as standard procedure.

Above, you see the Oakite system in action. This sturdy washing unit was built to specifications from Oakite blueprints. Entire unit was fabricated in the railroad's own shops.

Today, you can cut your equipment-washing costs by specifying Oakite pressure-spray cleaning and rinsing systems and by selecting any one of a wide variety of specialized Oakite cleaning compounds.



One of the typical automatic cleaning methods available from Oakite.

Drawings and data of time-proved Oakite pressure system cleaning are yours for the asking. Drop a line to Oakite Products, Inc., (Railway Division) 46 Rector Street, New York 6, N.Y.

SPECIALIZED INDUSTRIAL CLEANING

OAKITE®

MATERIALS · METHODS · SERVICE

SCIENCE

Export Division Cable Address: Oakite

Oakite gives you the IMPORTANT advantage ... LOW-COST END RESULTS!

RAILWAY DIVISION

Now **AAR** alternate standard....

A combination of maximum

Spring-mounted guard arm plungers eliminate normal running slack and provide vertical safety interlock.

Resilient knuckle faces provide additional slack-absorption when couplers are in extreme buff position.

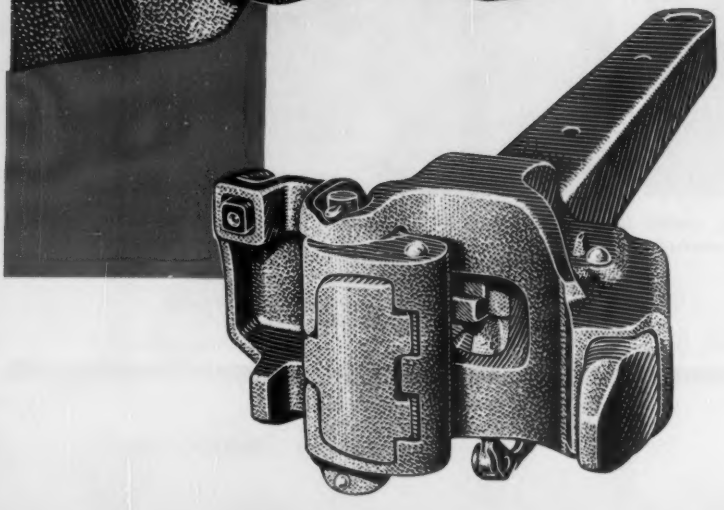
safety at minimum cost... the Controlled Slack Coupler

Fully meets all AAR test specifications

This is important news for the railroad interested in safe, smooth coupler operation...at the lowest possible costs for new passenger cars. Controlled-Slack Couplers are also an ideal application for modernizing existing cars.

Over *2 billion* car and locomotive miles of high-speed passenger train service have provided an excellent record of safety, comfort and smooth train operation.

Controlled-Slack Couplers and Slack Free Yokes can be applied to all passenger cars with standard sill spacing, without need for center sill alterations. *Here's a coupler that offers you a safe, practical way to save money.*



ASF

type E controlled-slack coupler

A contribution to railroad operating economy—through the Research and Development of

AMERICAN STEEL FOUNDRIES

Prudential Plaza, Chicago 1, Ill.

Canadian Sales: International Equipment Co., Ltd., Montreal 1, Quebec

Bendix Radio helps speed flood repairs on the D.L.&W.

65-Miles of Uprooted Track, Landslides and Washed-out Sidings caused by Diane's Fury

The Stroudsburg, Pa. area of the D. L. & W. Railroad caught the full impact of Hurricane Diane's flood waters. Track between Delaware Water Gap and Scranton was heavily damaged. Sidings were washed away. Landslides blocked vital connecting points. Trains were marooned.

Repairs had to be done. And done in a hurry. Thirty-eight trains pull through the D. L. & W.'s Stroudsburg terminal daily en route to Scranton, Buffalo, Hoboken and scores of other points.

Repair crews were organized and equipped with Bendix* Radio Pack Sets. Base radio stations were set up in East Stroudsburg and Scranton. Damage surveys were made quickly. On-the-spot needs for men, material and equipment were radioed back to the bases.

The gigantic rebuilding program began.

Bendix Radio directed men and machinery to repair areas. Then, to new locations as the need arose. Work that was originally expected to taper off as construction locations became more and more remote in the wilds of the Pocono Mountains, maintained a steady beat—thanks to Bendix Radio equipment and D. L. & W. work crews.

The rebuilding program was completed ahead of schedule. Full service was restored in record time.

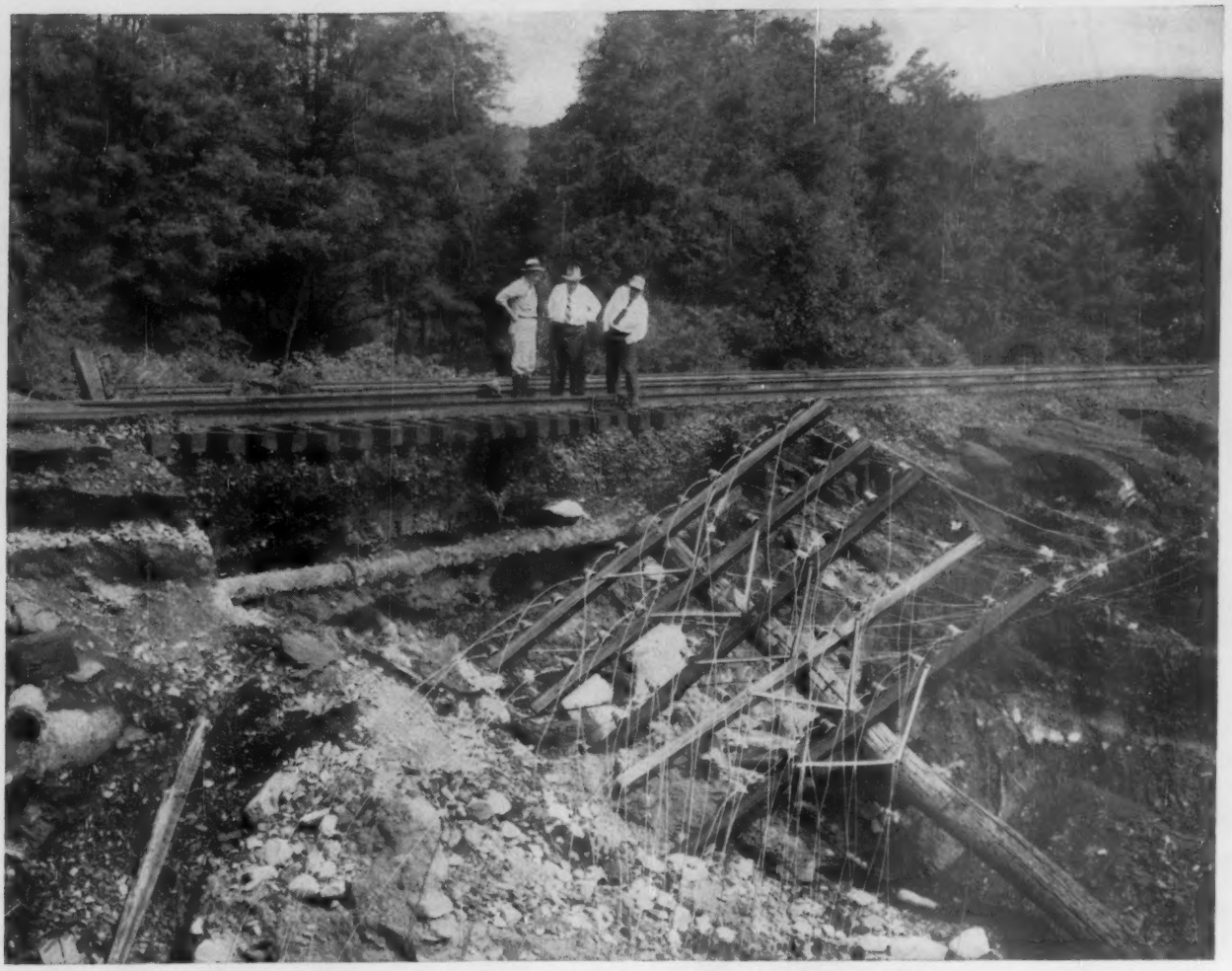
Bendix Radio is still on the job, though. Because speeding up emergency operations is only one of the many functions Bendix Radio performs in modern railroading.

For example, Bendix CRC (Centralized Radio Control) gives you complete 2-way train communications. Between train crews, dispatchers, yards, wayside stations . . . when and where you need it. With Bendix CRC single tracks can handle larger volumes both ways. Better "meets" and changes of "meets" are possible. Unscheduled stops, seeking information, are eliminated. Knowing locations, conditions and speed of trains eliminates delays at interlocking plants, or when entering and departing yards. And there are a host of other time-saving reasons.

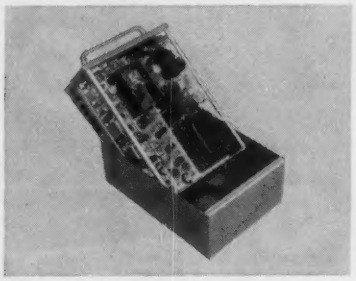
Find out how Bendix Radio can help your operation. Get the complete story. Write to Bendix Radio, Railroad Sales, Baltimore 4, Maryland.

Judson Hazen, veteran D. L. & W. official, receives an emergency call on a Bendix Pack Set in his car. A completely contained 2-way radio, it has a wide variety of uses.

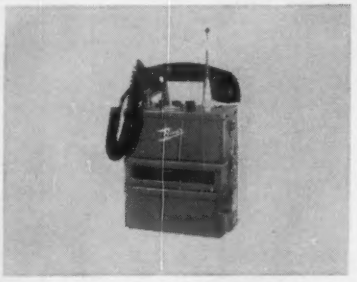
The Bendix Pack Set is used on-the-scene by Mr. Hazen to request aid and materials from the D. L. & W.'s base radio station in the East Stroudsburg Terminal.



D. L. & W. officials inspecting a washed-out siding caused by flood waters. Bendix Railroad Radio equipment, used by the D. L. & W. to direct work crews, route heavy equipment and report on-the-spot urgencies, saved time and funds throughout the entire rebuilding program.



This Traffic Master contains power supply, transmitter and receiver in a single package unit. For use in locomotive, caboose or base station. Single or dual channel operation, 52-174 meg., 30 watt output.



The Bendix Pack Set is available 3 ways . . . as a Han Pak (above), Shoulder Pak or Back Pak. Designed especially for railroads, it features dual channel operation and provides big set performance in a small package.

Bendix 2-Way Multi-Master can be used as a fixed station or mobile unit. Available in AC or DC current, 2½ to 35 watt output. Long-range, static-free reception.

*Reg. U. S. Pat. Off.

BENDIX RADIO DIVISION • BALTIMORE 4, MD.

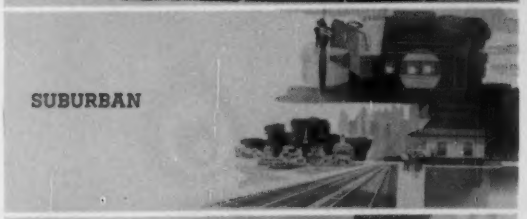
Chicago Sales Office: 188 W. Randolph St., Chicago 1, Ill.
West Coast Sales: 10500 Magnolia Blvd., N. Hollywood, Calif.
Export Sales & Service: Bendix International Division, 205 E. 42nd St., New York 17, N. Y., U. S. A.
Canadian Distributor: Aviation Electric, Ltd., 200 Laurentian Blvd., Montreal, Quebec.

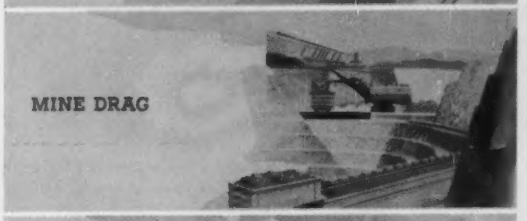
Bendix RADIO — Bendix AVIATION CORPORATION

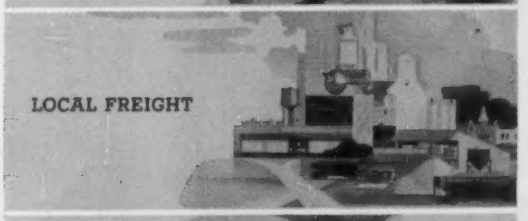
TM

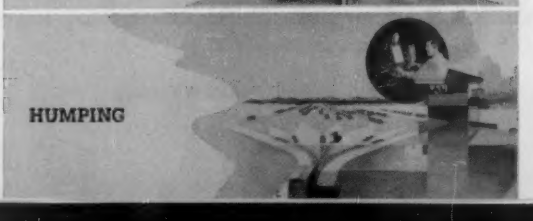
THEN... a New Motive Power Name

From the first,
the Fairbanks-Morse Train Master
was a new and promising concept
—a new name in motive power.
Backed by
Fairbanks-Morse experience
and sound locomotive design,
this new power represented
an opportunity for greater
operating efficiency
in all classes of service.







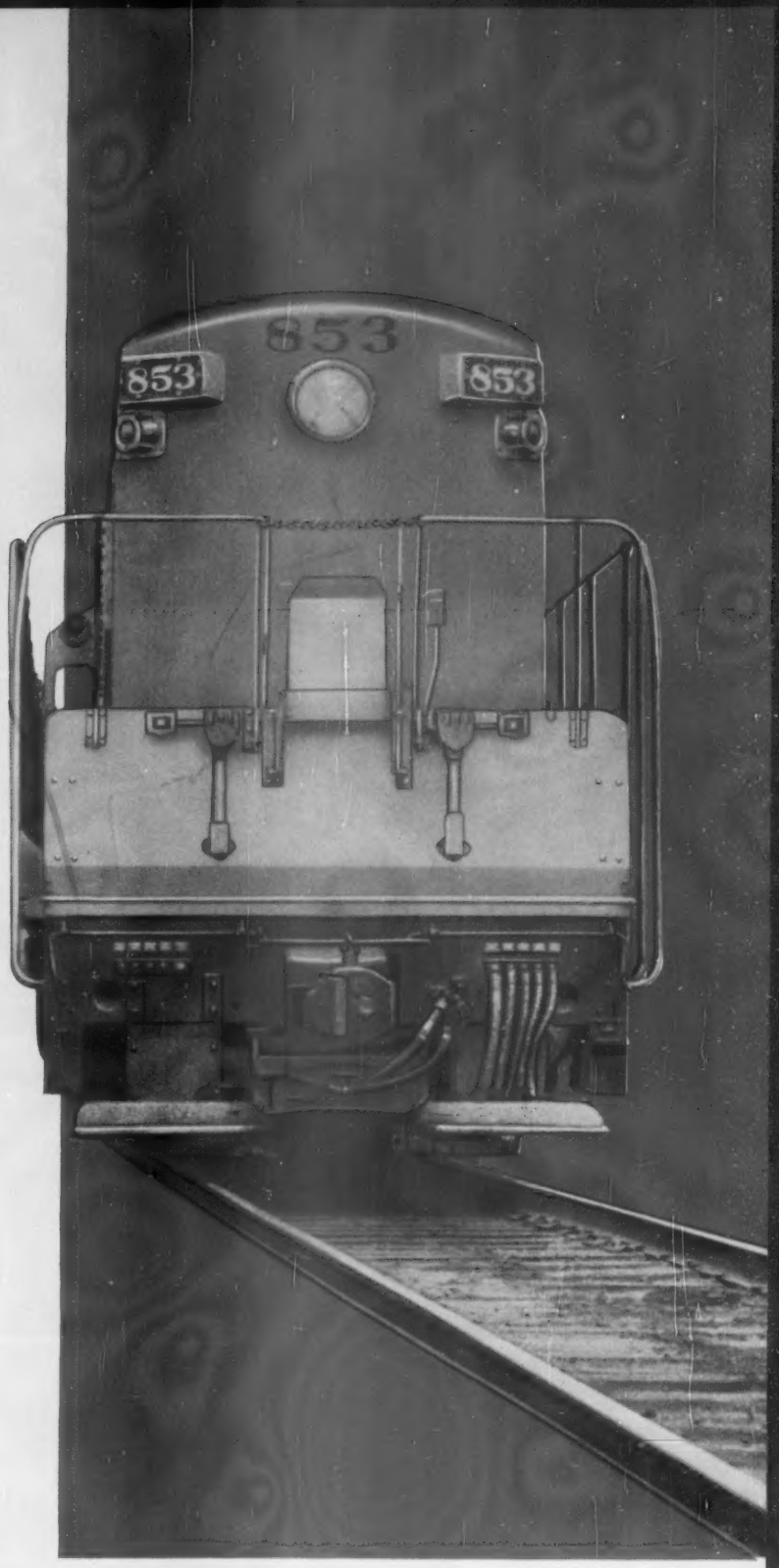


TM

NOW... a New Motive Power Record

Today, after a multimillion-mile record of round-the-clock service, the 200,000 TM horsepower in railroad ownership has established a new record that proves the fact—Train Master is the pace setter in today's trend towards more powerful, more useful diesel-electric motive power.

Designed around the compact Opposed-Piston engine, the Train Master offers the power and versatility that make it the ideal power unit with unlimited applications. Dispatchers' sheets prove TM top performance in local freight, humping, drag freight, time freight, commuter, passenger, mine drag service—and many extra services as well.



TM

...the most useful locomotive ever built

THE RECORDS PROVE IT!

If you would like a copy of the colorful Train Master booklet, we'll gladly send one by return mail. Write:
Fairbanks, Morse & Co., Chicago 5, Ill.

FAIRBANKS-MORSE

a name worth remembering when you want the best

DIESEL LOCOMOTIVES AND ENGINES · RAIL CARS AND RAILROAD EQUIPMENT · PUMPS
ELECTRICAL MACHINERY · SCALES · WATER SERVICE EQUIPMENT · MAGNETOS

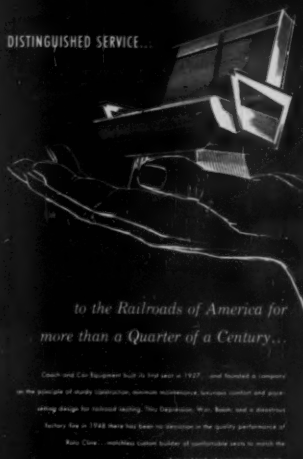
CONGRATULATIONS... *to the*
Long Island for
Revitalizing a railroad

Progressive accomplishments in modernization programs, in the fallowork to successful railroading... for people, benefactors of improved services, will continue to be a contented, and ever appealing flood of increasing revenues.

We are proud to have a part in this extensive and farsighted modernization program of service to a community.

Coach and Car Equipment Corporation
2860 QUINN STREET, CHICAGO 8, ILLINOIS

DISTINGUISHED SERVICE...

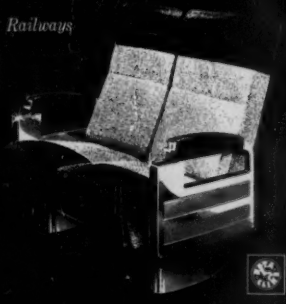


to the Railroads of America for
more than a Quarter of a Century...

Coach and Car Equipment built its first seat in 1927... and founded a company on the principle of sturdy construction, minimum maintenance, luxurious comfort and good-looking design for railroad seating. This Depression, War, Boom, and a disastrous factory fire in 1948 there has been no deviation in the quality performance of Roto-Cline... matchless custom builder of comfortable seats to match the forward look of progressive railroads.

Coach and Car Equipment Corporation
2860 QUINN STREET - CHICAGO 8, ILLINOIS

CONGRATULATIONS... *to the*
Railways



We are proud to have a part in the extensive modernization program of Canadian National Railways.

Our supply responsibility has been amply and adequately met by our complete manufacturing facilities in Canada.

Coach and Car Equipment Corp.
2860 QUINN STREET
CHICAGO 8, ILLINOIS

In Canada
Mount Royal Transportation Equipment Ltd.
[illegible]

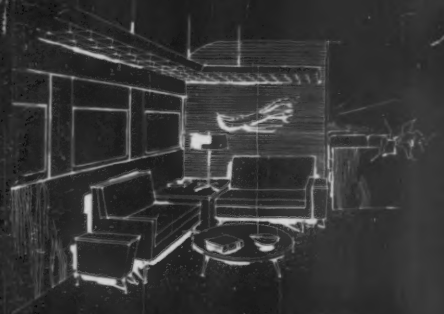
A Look AT THE RECORD FOR 1955

All these wonderful new seats were designed, developed and manufactured in our shops during 1955 . . . Setting the pace in daring new design and color application and satisfying the demands of the luxury conscious, comfort loving travellers. With modest pride we point to the matchless performance of Roto-cline seats . . . their sturdy construction . . . their low maintenance cost.

Yes . . . '55 has been a great year for railroading and for us . . . and the designs now on the drawing board promise an even more spectacular '56.

Coach and Car Equipment Corporation
2860 QUINN STREET • CHICAGO 8, ILLINOIS

A BRAND NEW CONCEPT
In Luxury Travel...



For years we have pioneered Custom Creations of car interiors to exacting standards of railroad utility requirements. Modern decor in metal, plastics... fabrics and wood furniture with plastic tops... handsomely crafted... distinctive in concept and color... the happiest possible meeting of smartness and utility... supreme luxury in travel.

WE DO ALL THAT!

Coach and Car Equipment Corporation
2860 QUINN STREET • CHICAGO 8, ILLINOIS

THE *New* LOOK

Presenting the newest custom styling in Dome Car seating to match the superb design of these new type cars. You are no longer restricted to a cut-down, slightly altered conversion of a standard coach seat originally planned for other uses.

This master-crafted, custom design, and other equally attractive, smartly styled seats are available to meet your most exacting specific requirements.

Ask your ROTA-CLINE Representative for confidential seating information.

In Chicago
Coach and Car Equipment Corporation
2860 QUINN STREET

WHEREVER YOU
SEE THIS SIGN,
YOU SEE AND FEEL SEATING
AT ITS VERY BEST.

KEEP 'EM ROLLING

WITH THE WHITING WHEEL GRINDER

Just *imagine* . . . your engineer drives in and says "Smooth 'em up!" And in an average of 60 minutes or less, freight car, passenger car or locomotive wheels are restored to proper contour!

It's a job well done with the revolutionary new Whiting Wheel Grinder . . . *without removing the wheels.* Valuable *time* is saved . . . considerable *money* is saved. You keep that most important wheel in America *on the move* with only "minutes" for maintenance in the shop.

The Whiting Wheel Grinder is cost-saving equipment well worth the consideration of every railroad executive. Be sure to look into the facts and figures. A Whiting representative is ready to give them to you!

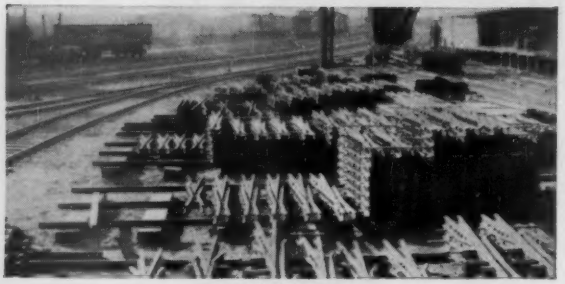
WHITING CORPORATION
15603 Lathrop Avenue, Harvey, Illinois
Manufacturers of Cranes, Trackmobile, Drop Tables, Jacks, Train Washers and other Cost-Saving Equipment for All Industry

Start things rolling by getting a copy of the new Whiting Wheel Grinder Bulletin. It shows you how a big job is done in little time at low cost. Write today for Bulletin MS-C-401.

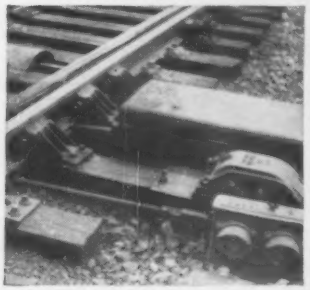
Here's the Whiting Wheel Grinder at the Baltimore and Ohio Cumberland Diesel Shop. Eight pairs of Wheels are accurately ground every day . . . without opening a single bearing box or loosening a bolt or nut.

Rail Joints

Bridges



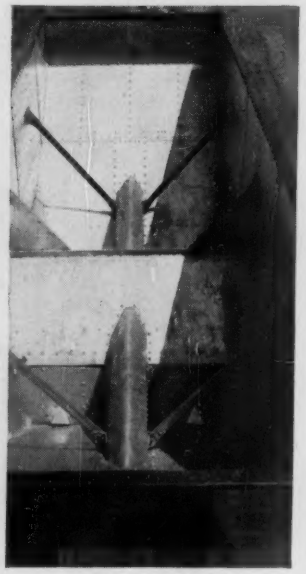
Stored Materials



Signal Equipment

Car Journals

Pipe Protection



Car Construction

Viaducts

Steel Tanks

Street Crossings

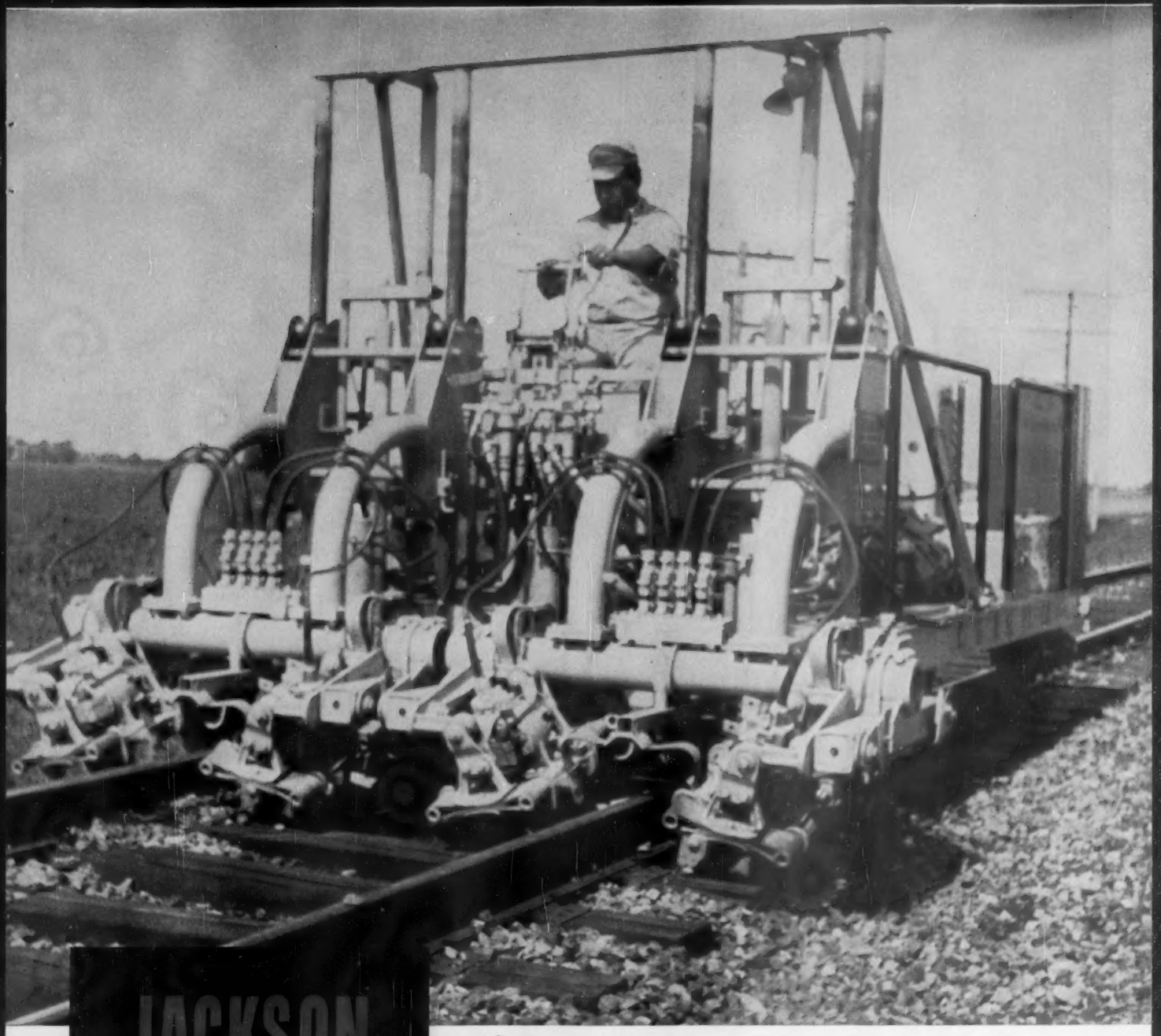
There is a DEARBORN NO-OX-ID®
for every railroad application

NO-OX-ID PROTECTS...NO-OX-ID SAVES

Dearborn® Chemical Company

Merchandise Mart Plaza • Chicago 54, Ill.

* a significant note to management!



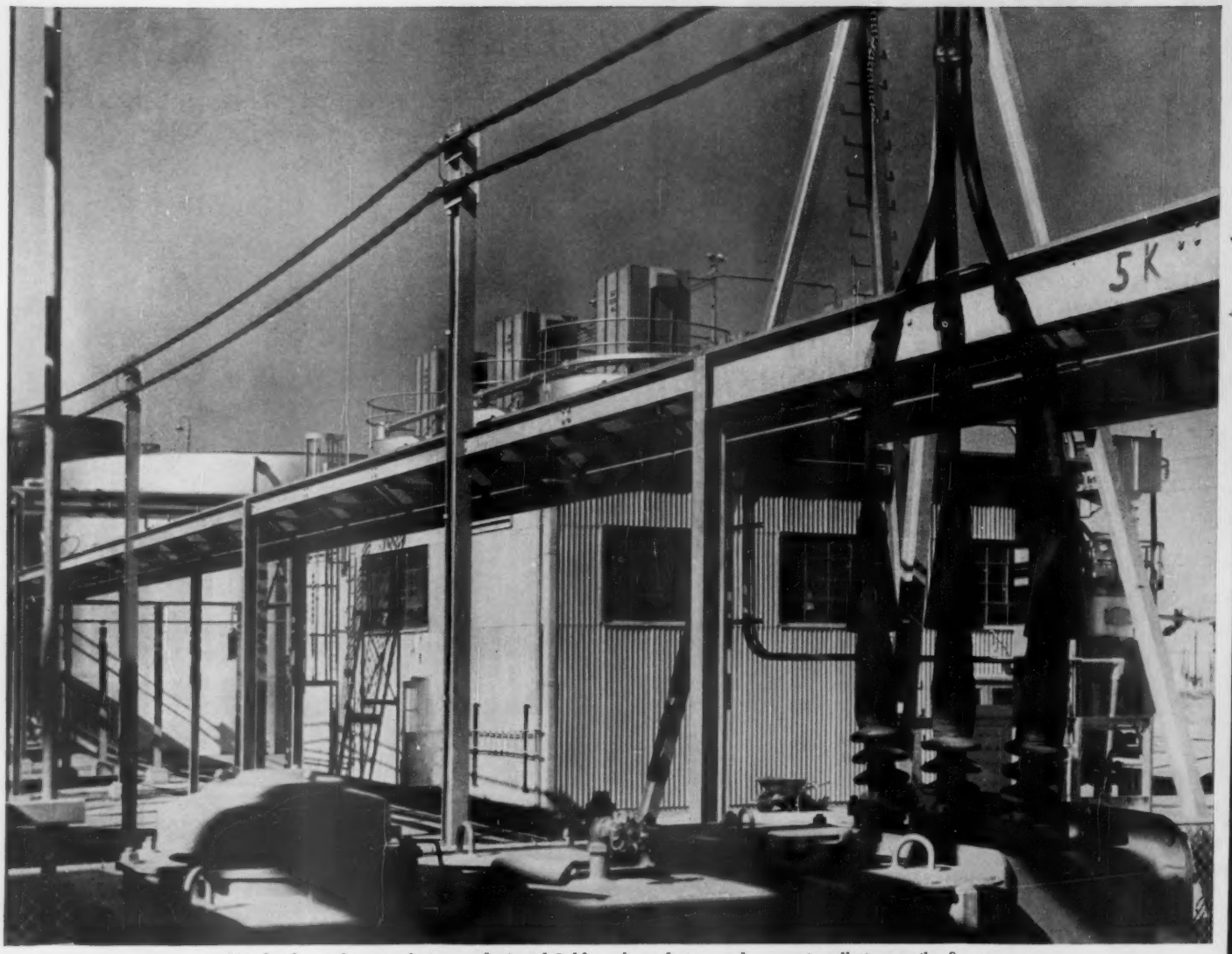
JACKSON TRACK MAINTAINER

* Why is the JACKSON TRACK MAINTAINER by long odds the first choice of those specifying equipment of this type for 1956? Because maintenance-of-way men everywhere are becoming thoroughly convinced of the great economy and other advantages of this one machine which has both the power and versatility to place a maximum of uniformly compacted ballast under EVERY TIE on EVERY TYPE OF TAMPING JOB, under ALL CONDITIONS OF BALLAST AND TRACK.

Its tremendous vibratory tamping force is directed, for utmost consolidation, right under the rails, and it is exceptionally fast. Those who know its performance record are soundly convinced it will give you the finest quality of tamping, at lowest cost over EVERY FOOT OF YOUR TRACK. By all means, Buy Jackson.

Acquirement plans to suit your needs.

JACKSON VIBRATORS, INC.
LUDINGTON, MICHIGAN



Heads above the crowd, Anaconda Aerial Cable makes a fast, neat, low-cost installation at oil refinery.

How to handle high voltage with a low overhead

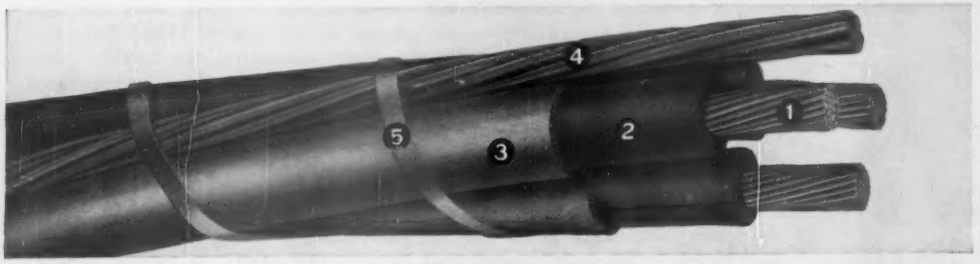
Anaconda Aerial Cable goes over crowded areas... gives highly reliable service at low cost.

Pipes and other underground structures often make installation of ducts or buried cable costly and difficult. The ideal answer: Anaconda Aerial Cable.

See how easy it is to install—no ducts, crossarms or insulators are needed. Even if underground obstructions are not a factor, this rugged neoprene-jacketed cable costs much less than buried systems.

Neoprene jacket resists weather and abrasion. Special Anaconda Type AB butyl high-voltage insulation gives extra protection against ozone, heat, moisture and fumes.

For the full story, call the Man from Anaconda or your nearest Anaconda distributor. For information on Aerial Cable write to: Anaconda Wire & Cable Company, 25 Broadway, New York 4, N. Y. 56287



1. **Conductors—copper or aluminum**
2. **Ozone-, moisture- and heat-resistant butyl insulation**
3. **Neoprene weather-resistant jacket**
4. **Messenger**
5. **Binder Tape**

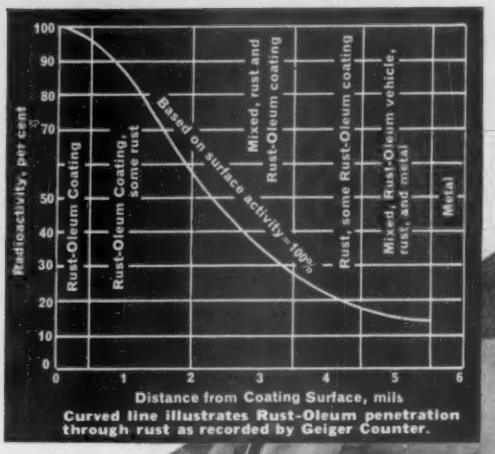
ASK THE MAN FROM ANACONDA® FOR AERIAL CABLE

RUST-OLEUM®

PENETRATION

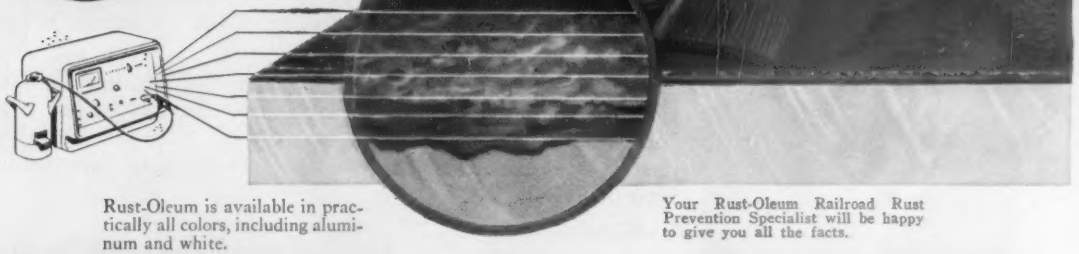
through rust to bare metal traced by Geiger Counter. To effectively stop rust—the vehicle of a protective coating, when applied over a sound, rusted surface—must penetrate through the rust down to bare metal. **Rust-Oleum does exactly that!—as proved by radioactive research!** Rust-Oleum's specially-processed fish oil vehicle was radio-activated and formulated into Rust-Oleum 769 Damp-Proof Red Primer—then applied to rusted test panels. Penetration *through rust* to bare metal by Rust-Oleum's specially-processed fish oil vehicle was then traced by Geiger Counter.

You stop rust, because Rust-Oleum's fish oil vehicle soaks deep down to bare metal and into the tiny pits where it drives out air and moisture that cause rust. You save, because this same *penetration* enables you to apply Rust-Oleum directly over rusted surfaces—usually eliminating costly surface preparations. Attach coupon to your letterhead for your thirty-page report entitled, "The Development of a Method To Determine The Degree of Penetration of a Rust-Oleum Fish-Oil-Based Coating Into Rust On Steel Specimens," prepared by Battelle Memorial Institute technologists.



Curved line illustrates Rust-Oleum penetration through rust as recorded by Geiger Counter.

There is only one Rust-Oleum. It is distinctive as your own fingerprint. Accept no substitute. Buy—and specify only Rust-Oleum. You'll be happy that you did.



Rust-Oleum is available in practically all colors, including aluminum and white.

Your Rust-Oleum Railroad Rust Prevention Specialist will be happy to give you all the facts.

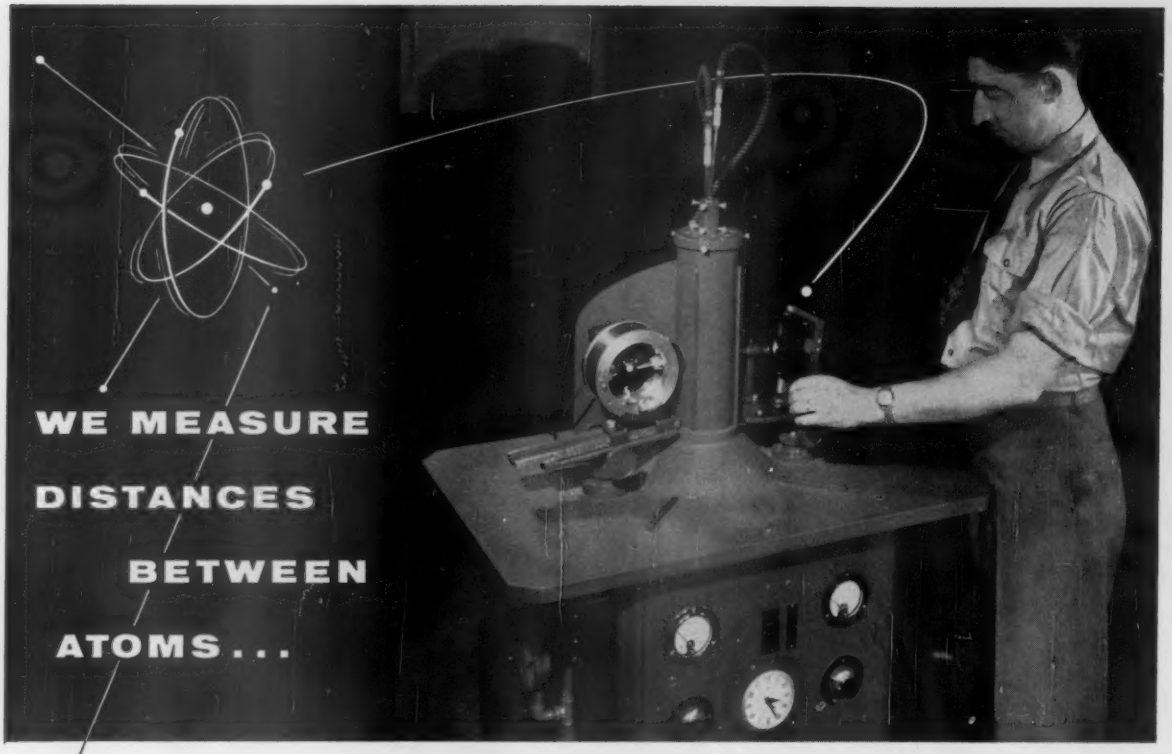
RUST-OLEUM®

STOPS RUST!

ATTACH TO YOUR LETTERHEAD—MAIL TODAY

Rust-Oleum Corporation
2594 Oakton Street
Evanston, Illinois

- ☐ Complete literature including color charts.
- ☐ Thirty-page report on Rust-Oleum penetration.
- ☐ Nearest source of supply.



TO GIVE YOU *Advance Design* BATTERIES!

The X-Ray Diffraction Unit shown above is one of the few instruments of its kind being used in basic battery research. It identifies complex metallic compounds which cannot be identified practically by chemical means. It does this by actually indicating on film the distances between atoms, enabling Gould engineers to study atomic structure.

This instrument . . . this research . . . is revealing hitherto unknown facts about the relationship between molecular activity and battery performance . . . pointing the way toward more powerful, longer lasting active materials. That's why you get *better* batteries when you buy Gould!

For the full story on Gould Research, send for Booklet 749.

America's Finest!
GOULD
KATHANODE BATTERIES
for Diesel Starting

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GOULD
Batteries

GOULD-NATIONAL BATTERIES, INC.
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"BETTER BATTERIES THROUGH RESEARCH"

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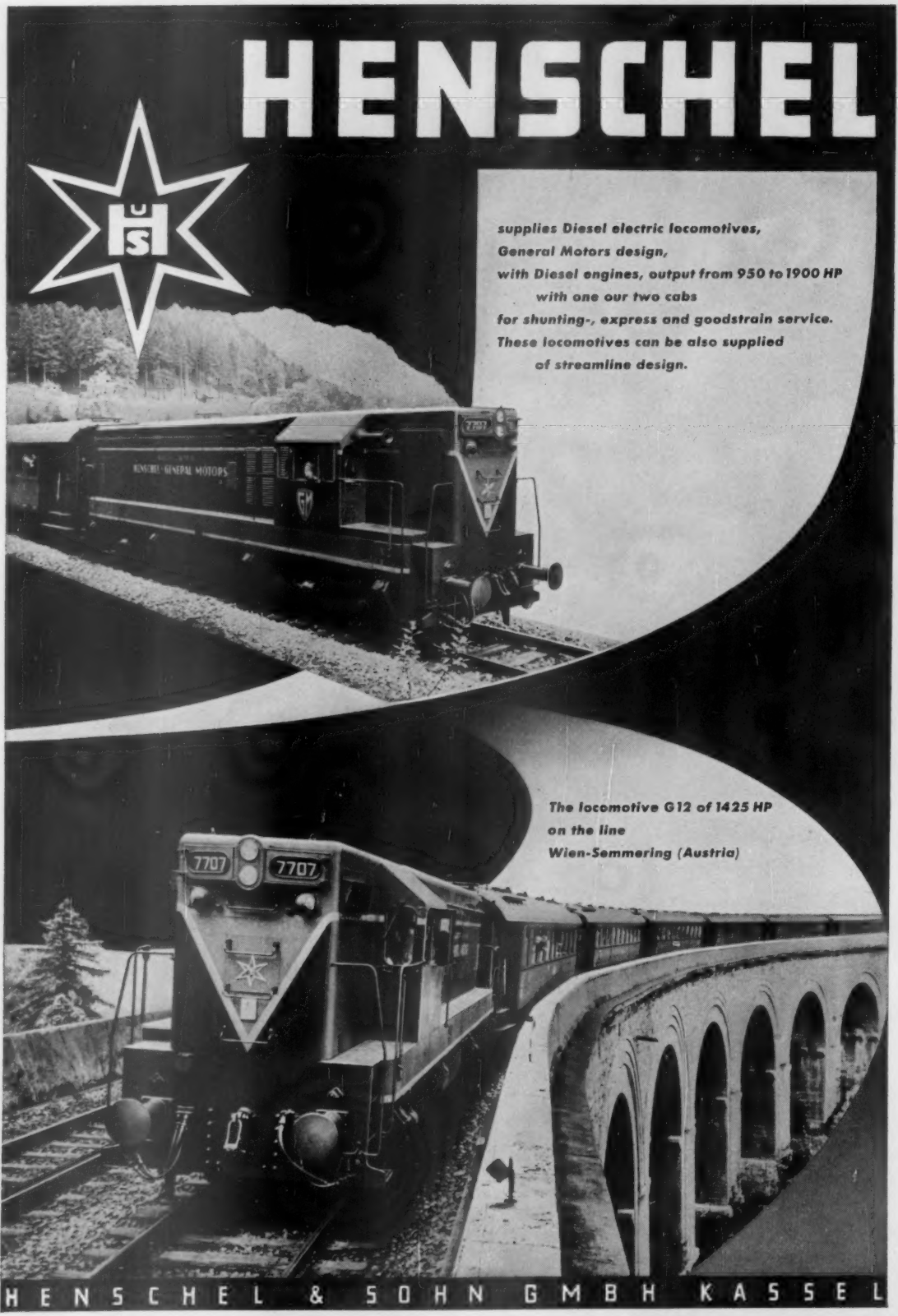
supplies Diesel electric locomotives,
General Motors design,
with Diesel engines, output from 950 to 1900 HP
with one our two cabs
for shunting-, express and goodstrain service.
These locomotives can be also supplied
of streamline design.
The locomotive G12 of 1425 HP
on the line
Wien-Semmering (Austria)
7707
7707
HENSCHEL & SOHN GMBH KASSEL

RESTORE CARS TO CLASS A SERVICE, QUICKLY, AND FOR LESS THAN $100...

with new GLID-IRON upgrading system!

Here's the simple, economical way to ready your present rolling stock for high revenue ladings. With the new GLID-IRON coating system, one man can completely and permanently upgrade a standard car floor and lining in just 30 minutes for less than $100 per car.

GLID-IRON, the 100% solids resin, eliminates costly paper or glass fiber reinforcing, can be applied to the desired thickness by spray, brush or roller. It fills small cracks, penetrates the surface for maximum strength and adhesion.

GLID-IRON cures rapidly, provides a smooth, splinter-free surface that's scuff and skid proof. This tough yet flexible coating permits nailing without chipping or cracking, resists staining and chemical action.

Glidden laboratories and Technical Service representatives are ready to assist in the upgrading of your rolling stock. Contact your Glidden representative or write for complete information and specification data.

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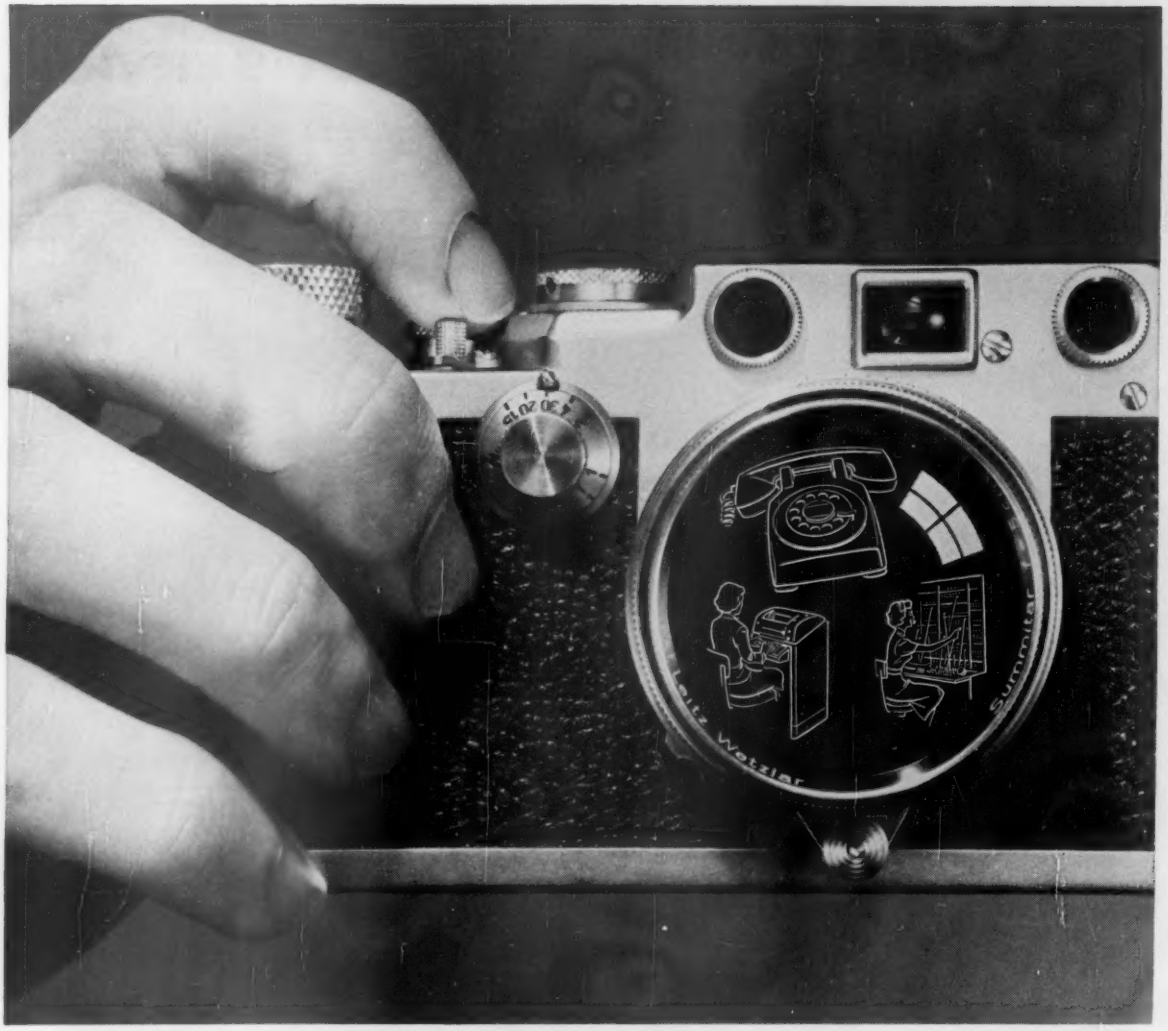

Do you have a good picture of what Bell System communications can do for you?

Looked at your communications recently? You might be surprised at what has happened as your business has grown—the wrong type of equipment here, not enough of the right kind there.

To make sure your communications are doing a good job for you, why not let the Bell System review them? The result can mean substantial savings in time and money to you, faster and better service for your customers.

Bell System recommendations are "custom-built" for your particular communication requirements. This is important since no two companies, even in the same industry, do business exactly alike. They differ in size, territory and methods of operation.

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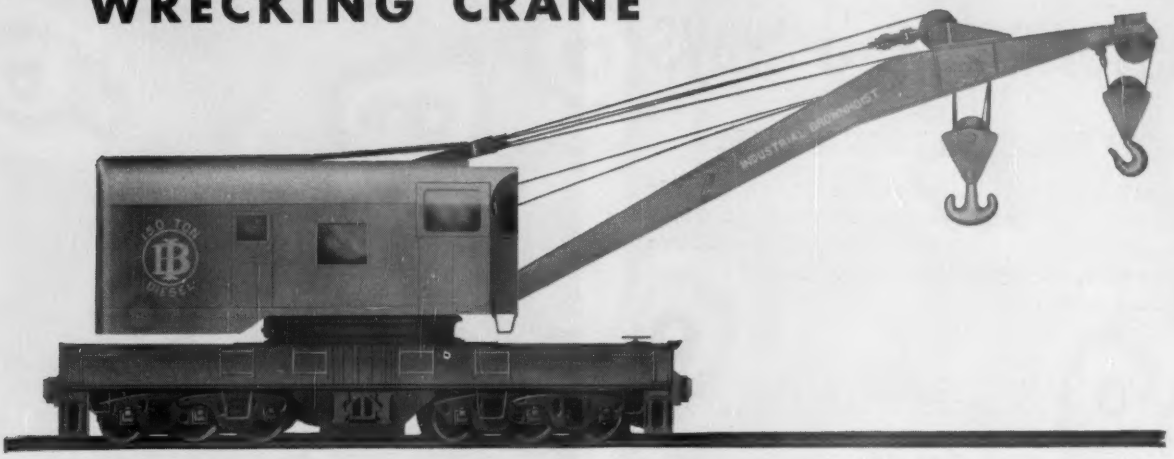
The Bell System will give you a clear picture of your communications and recommend services for your specific needs. There's no cost or obligation—just call your Bell Telephone representative.

BELL TELEPHONE SYSTEM

NOW AVAILABLE . . .

NEW BROWNHOIST 150 TON DIESEL WRECKING CRANE



INDUSTRIAL BROWNHOIST'S LATEST . . . 150 TON WRECKER DESIGNED FOR REDUCED AXLE LOADINGS

A smaller version of our famous 250 Ton Diesel Wrecking Crane, the new Brownhoist 150 Ton Diesel Wrecking Crane has been engineered to meet rail, bridge, and trestle conditions where a lighter axle load is necessary. With its up-to-date construction, this powerful twelve-wheel Diesel Crane can better perform the railroad services which have up to now been handled by obsolete, inefficient, steam powered cranes with high operating costs. The car is of welded and riveted structural sections with alloy-steel car-side sills, and travels on two six-wheel equalized steel side frame trucks. A quick disengaging mechanism is provided for train travel. The Diesel engine is equipped with torque convertor.

All clutches are air operated including friction reverse clutches. Boom hoist and rotating mechanism are worm-gear driven. The curved wrecking boom is of welded construction with alloy steel members; both main and auxiliary hoist sheaves are equipped with roller bearings; and the auxiliary hoist has a swivel sheave. The operator's position is in the front right hand corner of the cab and the crane controls are arranged for greater efficiency and convenience. The rugged new 150 Ton Diesel Wrecking Crane embodies the principles of design and construction that distinguish all Brownhoist Cranes . . . assuring you of maximum service with minimum maintenance. Write for complete information.

187

BROWNHOIST

BROWNHOIST MATERIALS HANDLING EQUIPMENT GIVES A LIFT TO AMERICAN INDUSTRY

SUBSIDIARY OF Penn-Texas

INDUSTRIAL BROWNHOIST CORPORATION
BAY CITY, MICHIGAN • DISTRICT OFFICES: New York, Philadelphia, Cleveland, Chicago, San Francisco, Montreal
AGENCIES: Detroit, Birmingham, Houston

KEY TO RAILROAD PROGRESS . . . ELECTRICAL PIONEERING

G.E.'s traction system gives railroad locomotives maximum performance 3 ways

1-HIGHER CONTINUOUS TRACTIVE EFFORT

Locomotives equipped with G-E traction motors consistently prove their capacity for carrying heavier loads. That's because the GE-752 motor has 15 percent higher continuous tractive effort, at comparable gearings, than any other motor in railroad use.

2-FEWER LOCOMOTIVE ROAD FAILURES

Road failures due to generator flashover are practically unknown on locomotives equipped with G-E traction generators because of the generator's inherently high machine stability, mycalex brush-holder insulators (which unlike the porcelain insulators in other generators will not shatter during flashover), and a brush-holder shield that drastically reduces damage to the brush rigging.

3-MINIMUM MAINTENANCE REQUIREMENTS

It's important to reduce or eliminate the small, continuing, and aggravating maintenance problems that occur on some control systems. In actual tests, G-E control has operated hundreds of thousands of miles in heavy mainline service with complete reliability.

Thirty years ago, General Electric supplied the first traction system—traction motors, generators and control—for the nation's first diesel-electric. Since then, G.E. has developed and is developing and perfecting other products from caboose power equipments to powerful electric and gas turbine-electric locomotives to help the nation's railroads maintain leadership in the transportation business. As the nation grows, and as the railroads grow, G-E research and engineering will be constantly at work to further railroad progress. Ask your G-E Apparatus Sales representative for more information, or write Section 135-1A, Locomotive and Car Equipment Department, Erie, Pa.

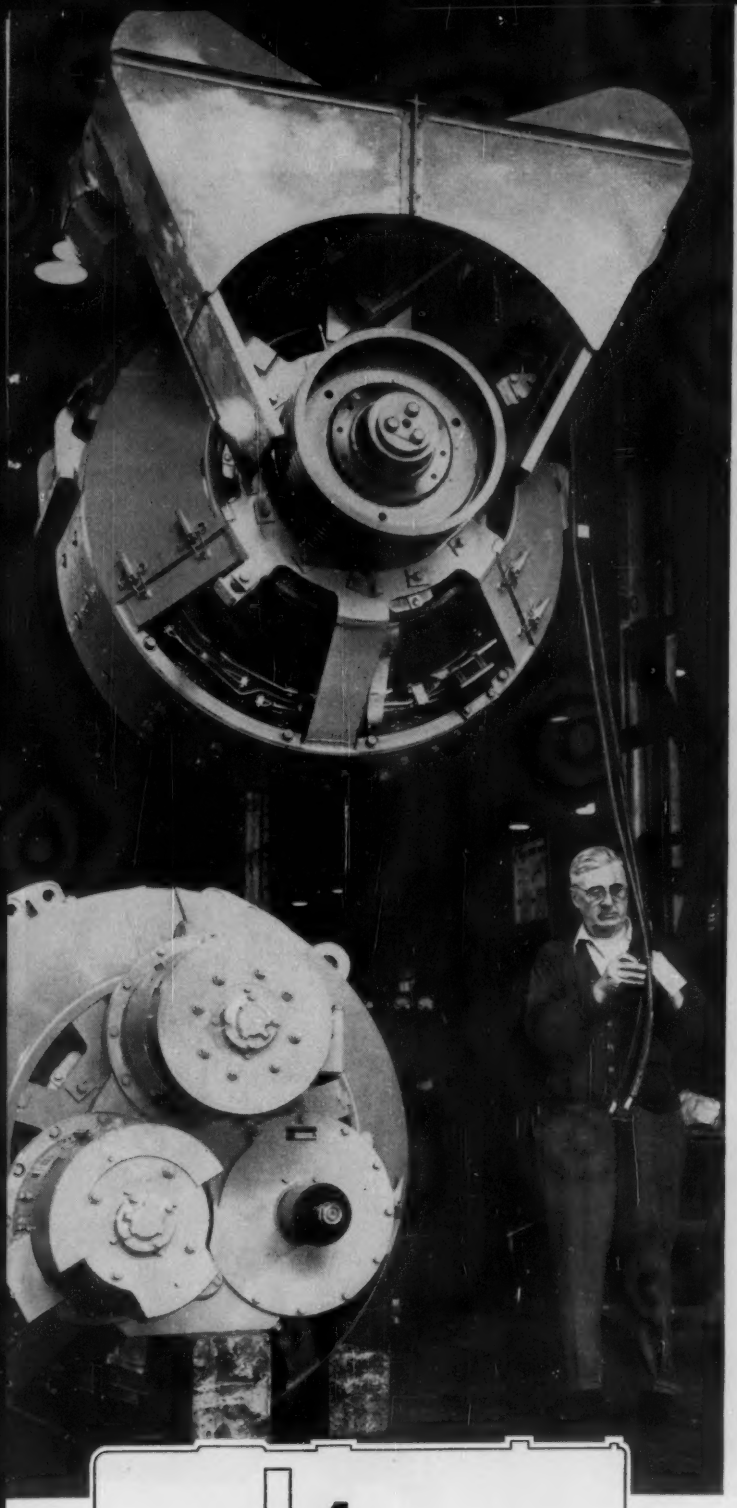
Progress Is Our Most Important Product

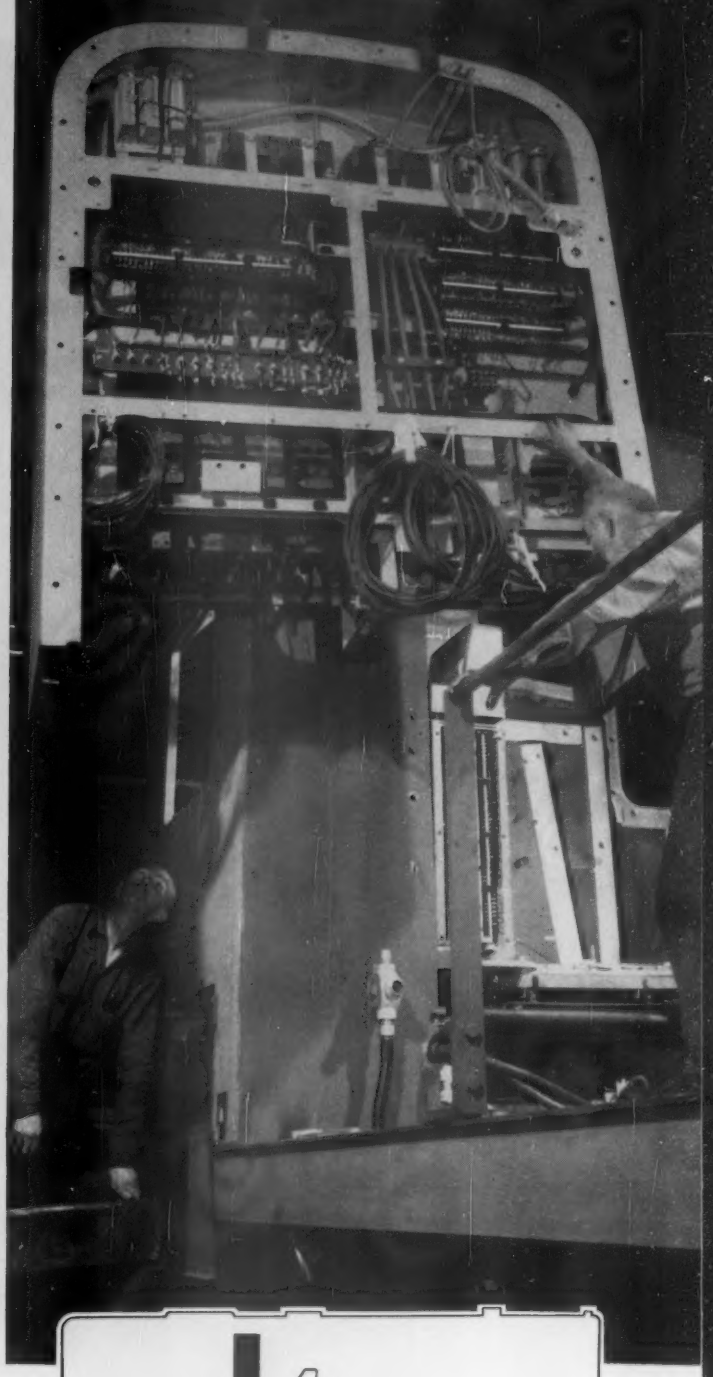
GENERAL ELECTRIC

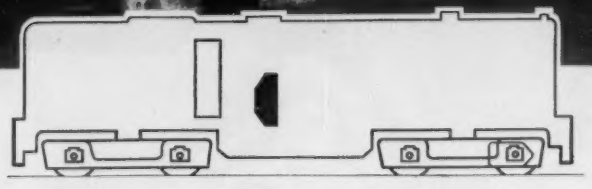
1 G-E TRACTION MOTORS GIVE YOU 15% HIGHER CONTINUOUS TRACTIVE EFFORT

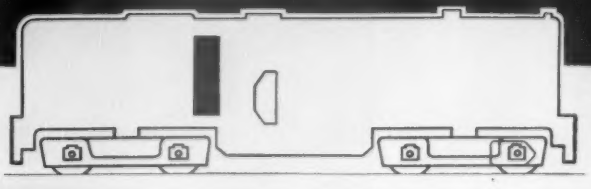
More working material in the GE-752 motor (12 percent heavier than any other motor offered for standard application) means higher ratings. The effective use of additional active copper and iron results in the most powerful traction motor available today.

GENERAL ELECTRIC









2 G-E TRACTION GENERATORS ARE BUILT TO REDUCE LOCOMOTIVE ROAD FAILURES

Because they are designed specifically to take flashovers in stride, G-E traction generators help protect your locomotive from frequent and costly road failures. In most cases, if a G-E generator flashes over, it simply recovers and the locomotive continues its run.

3 G-E CONTROL REQUIRES MINIMUM MAINTENANCE BETWEEN ANNUAL INSPECTIONS

G-E control is simple in construction, with fewer moving parts than other systems. In actual railroad service, locomotives equipped with G-E control have operated from annual inspection to annual inspection without a single detention being charged to the control system.

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for
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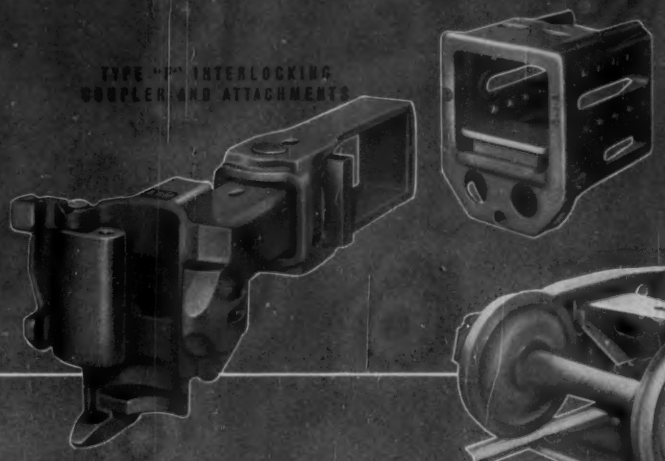
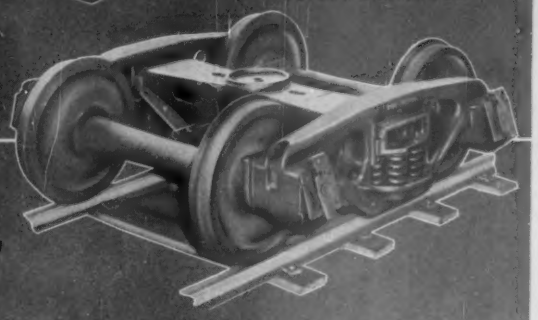


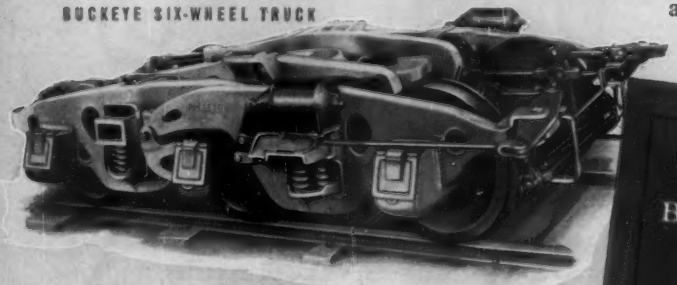


IN SERVICE'

proven feature of Steel Castings Railway Equipment

BUCKEYE C-R (CUSHION-RIDE)
FREIGHT CAR TRUCK

BUCKEYE SIX-WHEEL TRUCK



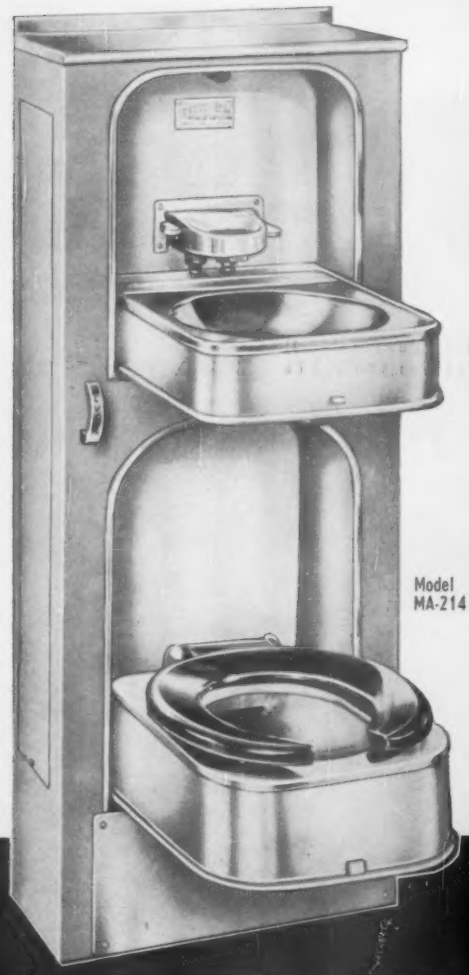
If your future designs or your immediate programs call for the manufacture of miscellaneous cast steel parts, Buckeye is at your service.

A diversified range of carbon and alloy cast steels offers you a complete selection.

Buckeye Sales Engineers are always available at your convenience.

FOR COMPLETE INFORMATION . . . CALL or WRITE

Refer Adv. No. 11875



Model MA-214

NEW RAILROAD TOILET FACILITY

Conserves Space - Offers Maximum Efficiency

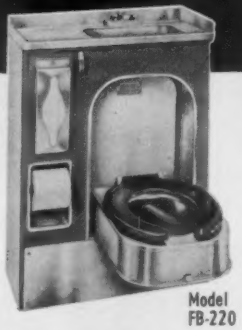
TRAVEL-LAV brings to the railroads a totally new idea in equipment that provides full modern toilet facilities in the very minimum floor space. This compactness gives greater latitude to builders in designing roomettes and bedrooms for new cars—and for modernizing old cars.

Rail car designers laying out new type all-roomette sleeping cars can save enough space to accommodate many extra roomettes in each car length. More impressive still, is TRAVEL-LAV's unique fold-away feature by means of which the toilet, or the wash basin, or both, fold away into an attractive cabinet.

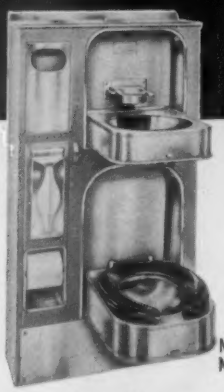
EFFICIENCY: Precision made of stainless steel and white-bronze machined parts, TRAVEL-LAV is designed for long wear; maximum convenience, efficiency and sanitation. All servicing through specially provided access panels. Many types and sizes for varied requirements.

TRAVEL-LAV®

FOLD-AWAY TOILET AND WASH BASIN



Model FB-220



Model MA-212

Model FB-224

MODEL MA-214: Manually operated. Size 20½" x 8½" x 48½".

MODEL MA-212: Fold-away toilet and fold-away wash basin. Dispensers for paper towels, toilet tissues. Waste receptacle. Size 26" x 8½" x 48½".

MODEL FB-220: Fold-away toilet and stationary wash basin. Towel & tissue dispensers. Size: Cabinet top 11¾" x 26". Base 10⅝" x 26" x 34".

MODEL FB-224: Fold-away toilet and stationary wash basin. Cabinet top 11¾" x 20". Base 10⅝" x 20". Height 34".

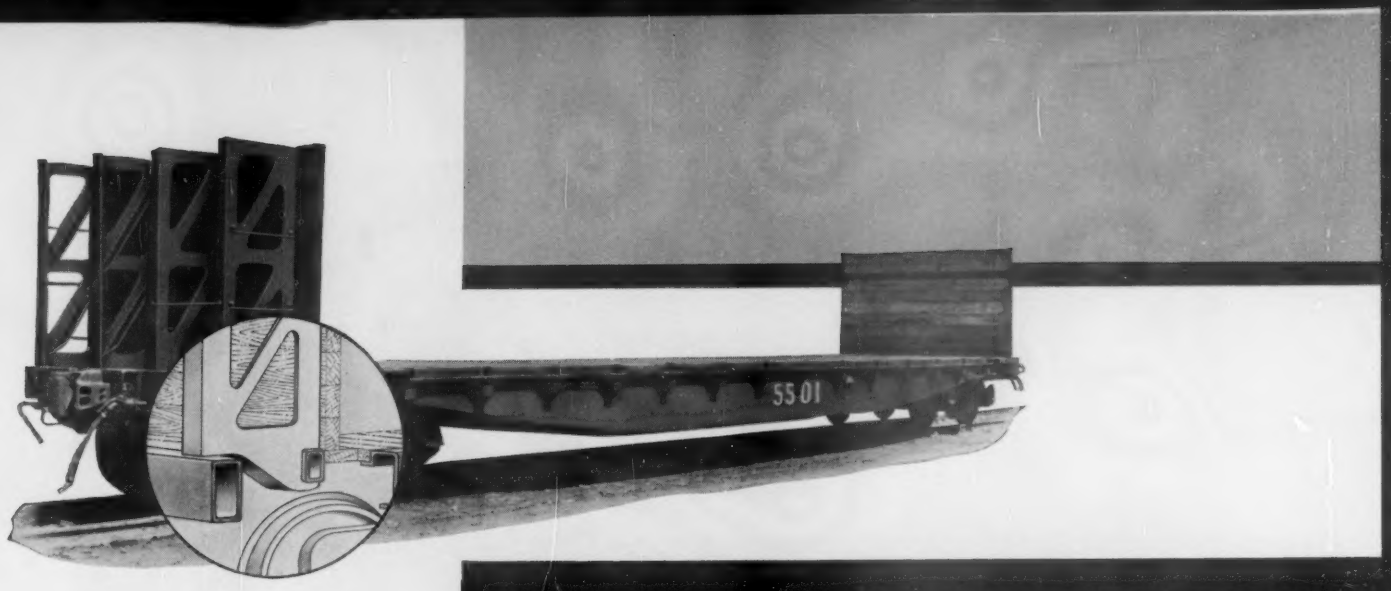
Most TRAVEL-LAV units consist of stainless steel toilet and stainless steel wash basin. Some are equipped with added conveniences such as dispensers for paper towels and toilet tissues, waste receptacles, medicine cabinets and mirrors. Complete catalog furnished on request.

A QUALITY C

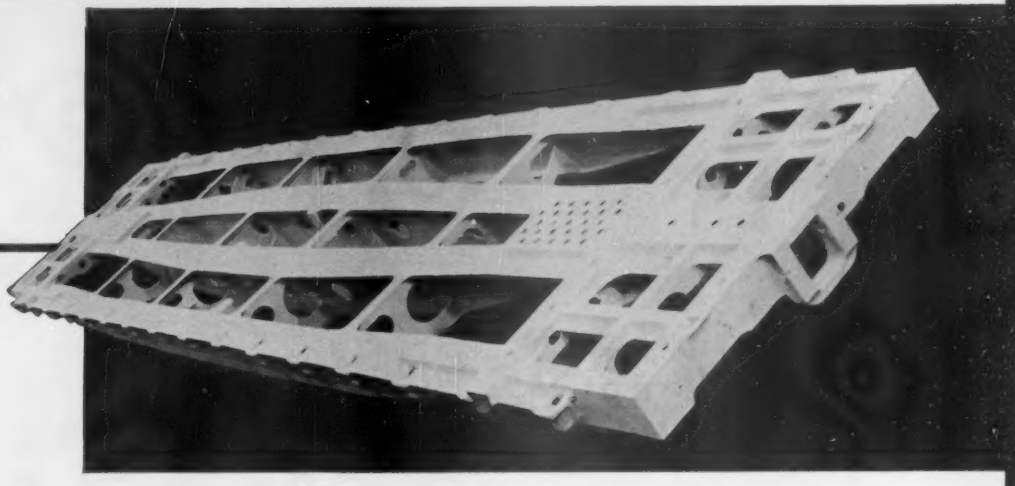
ANGELO COLONNA

Westmoreland & Boudinot Streets • Philadelphia 34, Pa.

DESIGNERS & MANUFACTURERS OF STAINLESS STEEL SPECIALTIES



50-ton, 53′ 6″ bulkhead car with Commonwealth one-piece cast steel underframe and interlocking cast steel ends.



Cast steel flat car underframe designed for application of upright ends.

GET Versatility

with this Commonwealth Underframe designed for FLAT CARS BULKHEAD CARS PIGGY-BACK CARS

Standard Commonwealth one-piece cast steel flat car underframes are especially designed to provide the *extra strength* required when cars are equipped with end bulkheads. The end construction simplifies application of strong cast steel interlocking ends permitting maximum floor space for lading.

Thousands of flat cars with Commonwealth underframes have been in service for many years, proving their exceptionally long maintenance-free life and the *sound economy* of the investment they represent.

Plan wisely for the future — invest in Commonwealth one-piece underframes

GENERAL STEEL CASTINGS

GRANITE CITY, ILL. · EDDYSTONE, PA.

MANY LEADING RAILROADS are now using No. 2 fuel oils stabilized with Du Pont FOA-2 with excellent results.

Du Pont *diesel fuel additive* offers greater operating economies

You may now find it practical to expand your choice of diesel fuels by considering a wider and more economical variety of blends of cat-cracked, thermal-cracked and straight-run stocks. The benefits of this "economy grade" approach can be obtained by using fuels containing Du Pont FOA-2.

Du Pont FOA-2 is an ashless, non-metallic antioxidant and dispersant that permits you to operate diesel locomotives on many economical combinations of cracked and straight-run fuels.

Good filterability—non-sparking

In addition, the dispersant action of FOA-2 helps to end most filter plugging problems and does not contribute to exhaust stack sparking because it is both non-metallic and ashless.

High temperature use

Besides good storage stability, field trials and commercial experience show that fuels containing FOA-2 protect against harmful residues and are excellent in injectors under high temperature use.

Costs little

Only small amounts of FOA-2 are needed to obtain required stability. Furthermore, FOA-2 added to freshly prepared stocks necessitates no special equipment for your fuel supplier.

For information . . .

Just call or write us if you would like to know more about Du Pont FOA-2 and how it can give you operating as well as economic advantages.

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. . . *through Chemistry*

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...and Railroads, too

Yes, railroads, too (like the Rutland Vermont Railroad, pictured below), have found the Austin-Western Hydraulic Crane has *Versatility Where It Really Counts.*

Full hydraulic boom action—including swing, raising and lowering, crowd and hoist—even while under load—adds up to the only true "live" boom, and when mounted on its sturdy, short-coupled All-Wheel Steer chassis, you have the most maneuverable piece of materials handling equipment of its kind, indoors as well as outdoors.

Without a doubt, it's the tremendous work capacity of the A-W Hydraulic Crane—the standout performance—that is proving every day on hundreds of jobs—that the A-W Hydraulic Crane is your answer to today's low cost requirements.

And, of course, it's the modern way to do it.

HOOK ORANGE PEEL CLAMSHELL MAGNET

The Hydraulic Crane is also available in truck-mounted and loading dock models.

Austin-Western

Power Graders · Motor Sweepers
Road Rollers · Hydraulic Cranes

Construction Equipment Division

Manufactured by
AUSTIN-WESTERN
CONSTRUCTION EQUIPMENT DIVISION
Baldwin-Lima-Hamilton Corporation
AURORA, ILLINOIS, U.S.A.

For Superior Railroad ...SINCLAIR

Lubrication... sets the pace!

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  Used on over 100 railroads

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  For Diesel Locomotive Air Compressors

- **SINCLAIR ROLLER BEARING OIL 62**
  For car and locomotive roller bearings, and traction motor support bearings

- **SINCLAIR 53 CAR OIL**
  Meets and surpasses all AAR requirements

- **SINCLAIR FILTERTAC AIR FILTER OIL**
  For locomotive and passenger car viscous impingement air filters

- **SINCLAIR JET LUBRICANT TM**
  The sturdy, stable, long-lasting Pennsylvania refined traction motor gear lubricant

- **SINCLAIR LITHIUM ROLLER BEARING GREASE**
  For freight and passenger car roller bearings, AAR-approved

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  A year-'round lubricant for reliable brake action

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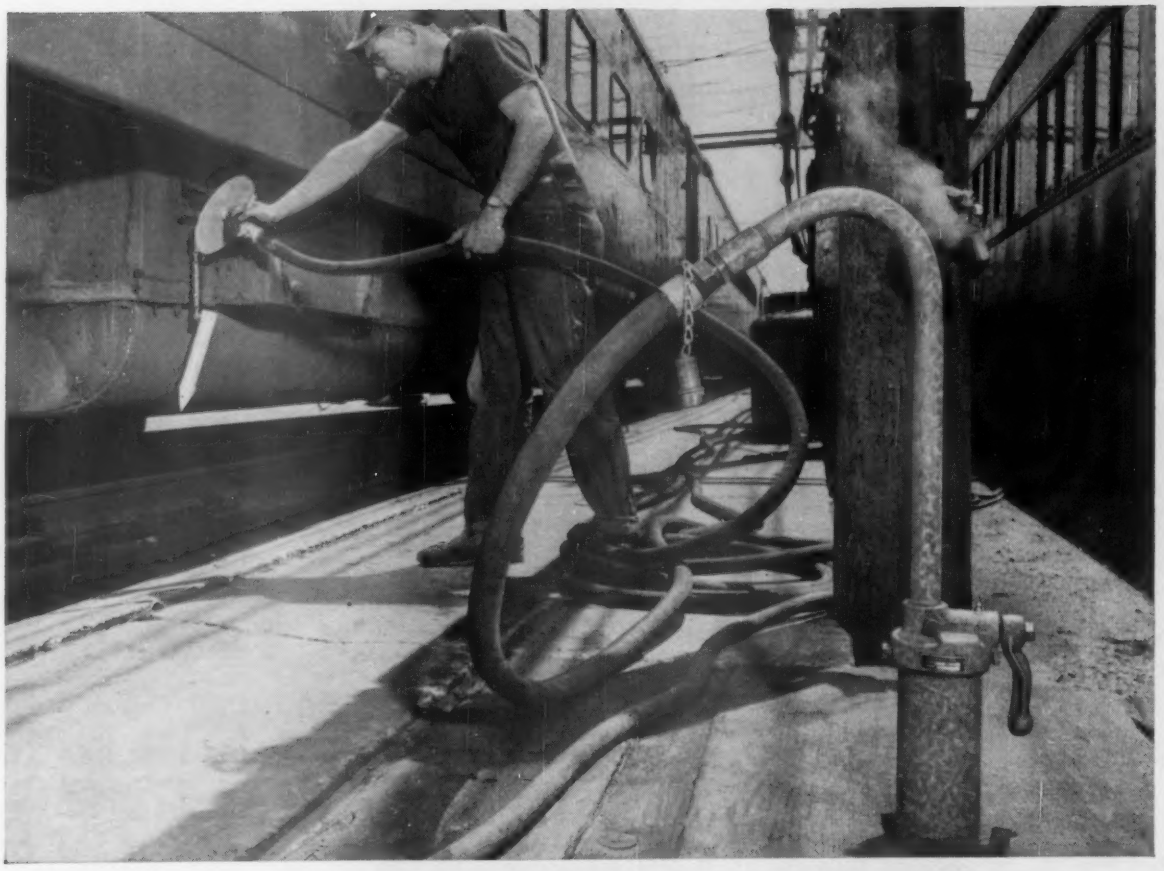


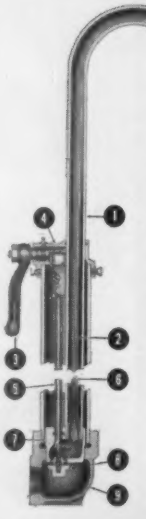
Contamination can't seep into Crane's new, improved Frostproof Hydrant

What about the water supply for your diners and passenger cars . . . is it being contaminated by surface and sub-soil pollution that enters through your station or yard hydrants?

If pollution is a problem in your yards, it's time to change to CRANE Improved No. 840 Frostproof Hydrant. Making the change-over can be far less costly than you think.

Crane's Improved No. 840 Hydrant does not need, nor have, an unsanitary underground drain-off. It is sealed completely against contamination seepage. As a result, many health authorities recommend this Crane hydrant.

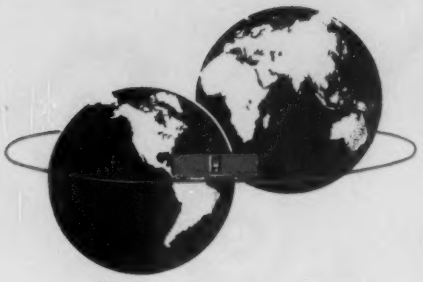
Crane's Improved No. 840 Hydrant is *frostproof!* Its superior, patented inner construction (shown right) assures free-flowing, dependable service in coldest weather. For complete details, write Crane Co., General Offices: 836 S. Michigan Ave., Chicago 5, Ill. Branches and Wholesalers serving all areas.



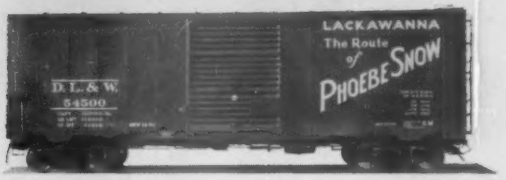
No. 840 Improved Frostproof Hydrant
1—Spout—with female coupling; **2**—water tube, **3**—operating handle, **4**—cap, **5**—valve stem, **6**—separator strip, **7**—valve body, **8**—disc holder, **9**—standpipe housing.
How it operates: elastic water tube lining contracts after each use. Internal plastic separator keeps ice to minimum—a thin ribbon. When valve is opened again, incoming water follows separator strip, forcing ribbon of ice out of spout. Height of spout above ground, 30"; height of standpipe above ground, 12"; depth of bury, 3, 4 and 5 ft. Size of female inlet, 1½"; outlet, 1".

CRANE VALVES & FITTINGS
PIPE • KITCHENS • PLUMBING • HEATING

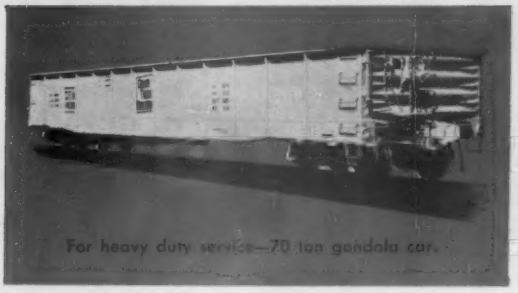
Since 1855—Crane Co., General Offices: Chicago 5, Ill. Branches and Wholesalers Serving All Areas



Air Dump Car for fast, efficient, low cost maintenance of way operations.



Top quality Box Car for revenue service.



For heavy duty service—70 ton gondola car.

Built to last—50 ton flat car.

For 50 years manufacturers of:

Box Cars
Pulp Wood Cars
Flat Cars
Air Dump Cars
Gondola Cars
Ore Cars
Hopper Cars
Covered Hopper Cars
Special Purpose Cars

DEPENDABLE SERVICE

for the years ahead MAGOR

MAGOR CAR CORPORATION

Designers and builders for the Railroads of the world.

50 Church Street
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Another* Sherwin-Williams first
KEM KOLD BILD†
*New KEM KOLD BILD being applied on new cars at Berwick, Pa., plant of A C F Industries, one of several leading car builders using this new one-coat spray material.

Now two-coat protection with <u>one</u> cold-sprayed coat...stencil in 2 to 3 hours!

Eliminate time for drying and application of second coat . . . save material and out-of-service costs! One full coat of new KEM KOLD BILD has the build of two standard coats using conventional spray equipment. It dries in 1½ hours and is ready for stenciling in 2 to 3 hours.

KEM KOLD BILD produces a dry-film thickness as heavy as 2½ mils. Good film flow with a minimum of overspray. And KEM KOLD BILD dries to a bright gloss that stands up under repeated cleanings and tough service. Doesn't lift or affect primers. No pinholing or bubbling from entrapped solvents during or after application.

KEM KOLD BILD is being used by leading railroads and car builders now. Why not arrange for a demonstration by contacting The Sherwin-Williams Co., Transportation Sales Division, Cleveland 1, Ohio.

(In Canada: 2875 Centre Street, Montreal)

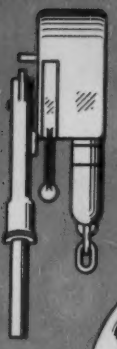
SHERWIN-WILLIAMS
COVER THE EARTH

SHERWIN-WILLIAMS RAILWAY FINISHES

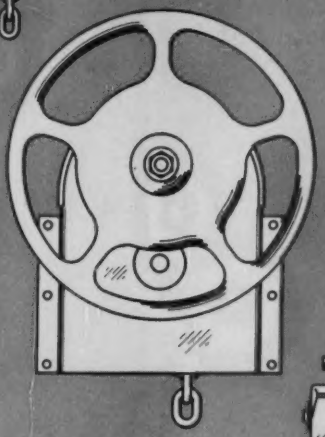
†Trade-Mark

PEACOCK BRAKES

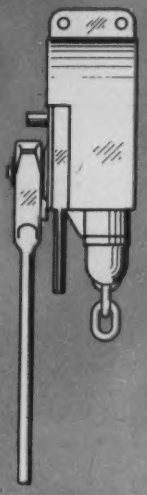
for all types of equipment



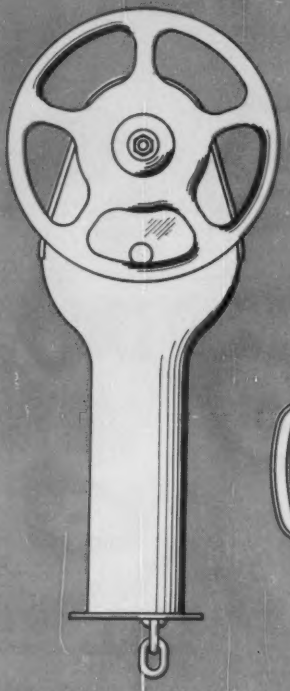
Light Weight Train Type



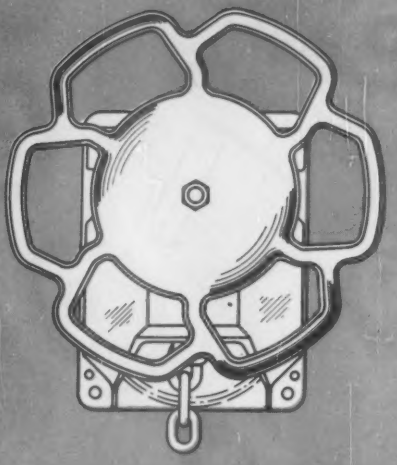
Passenger Type



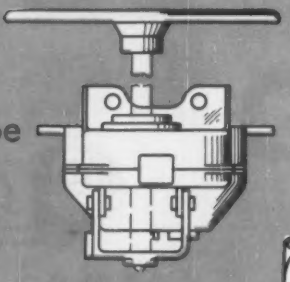
Passenger and Diesel Type



Diesel Locomotive Type



Freight Car Type



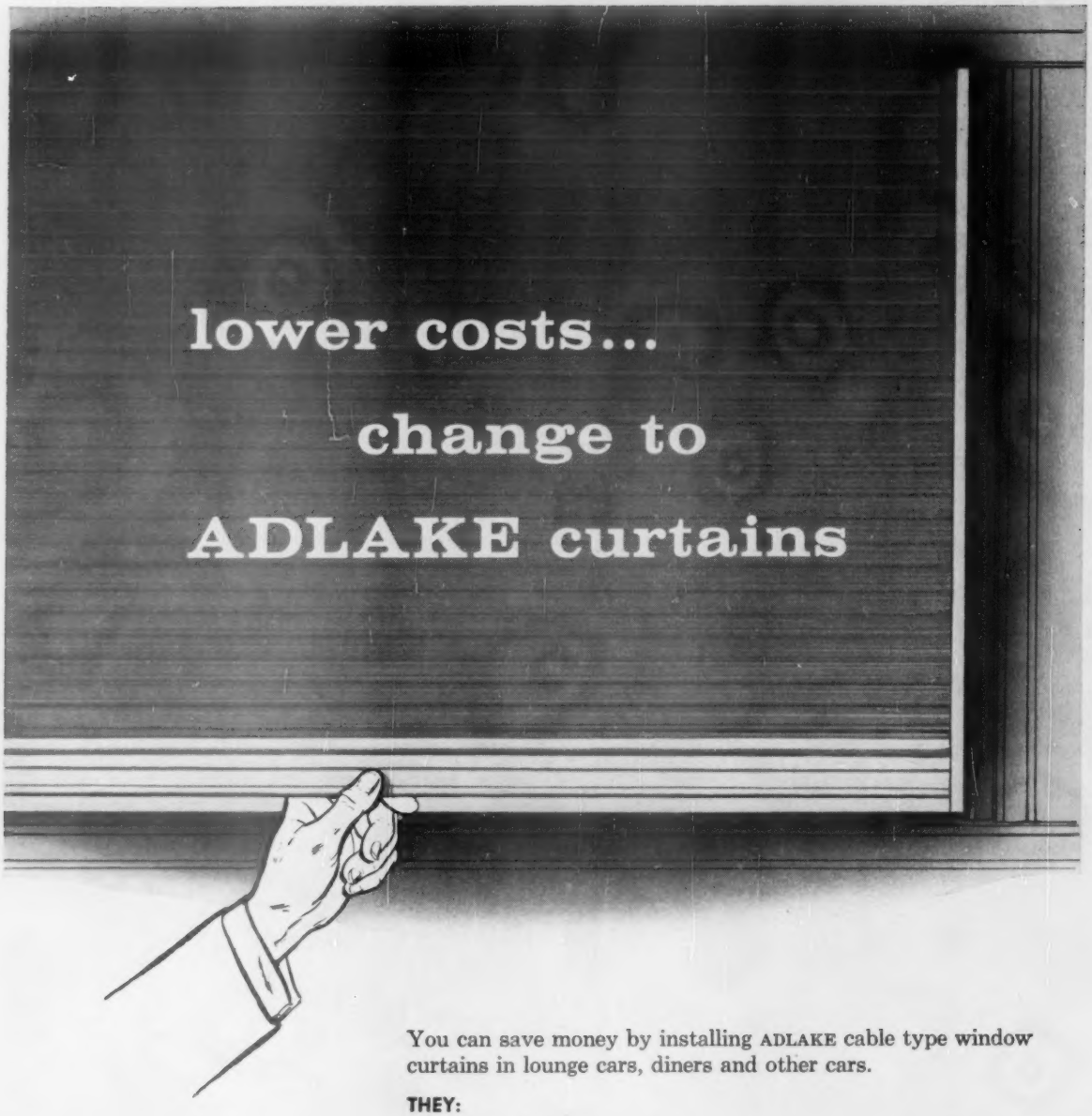
Flats and Piggy-Back Type

Light Weight Train Type

NATIONAL BRAKE CO., INC.

30 Church Street

New York 7, N.Y.



You can save money by installing ADLAKE cable type window curtains in lounge cars, diners and other cars.

THEY:

1. **Cut costs of daily cleaning.**
2. **Cut cost of replacement parts.**
3. **Cut costs of complete installation.**

You will find, as have others, that you can save time, money and annoyance by using ADLAKE cable type curtains in place of other types of blinds.

Get the complete facts on ADLAKE curtains and fixtures. Just write The Adams & Westlake Company, 1150 N. Michigan Street, Elkhart, Indiana. No obligation, of course.

Adlake 99th year of serving the transportation, building and control industries

The Adams & Westlake Company

Established 1857 • Elkhart, Indiana • New York • Chicago

Manufacturers of Adlake Specialties and Equipment for the Railway Industry

Baffle

damaging weather with Superior car doors!

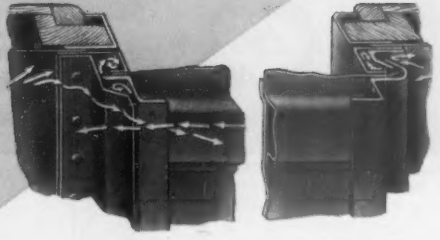
The money you save on damage claims is only a small part of the *real* benefit you get from *Superior* weatherproofing!

***Most* important is the *good will* of shippers. *Paying* damage claims is no benefit to either party . . . *eliminating* damage claims creates new business for both!**

Free-Rolling on ball bearings

Tight Closing due to wedge design

Smooth inside surface— no "corrosion pockets" or infestation harbors.



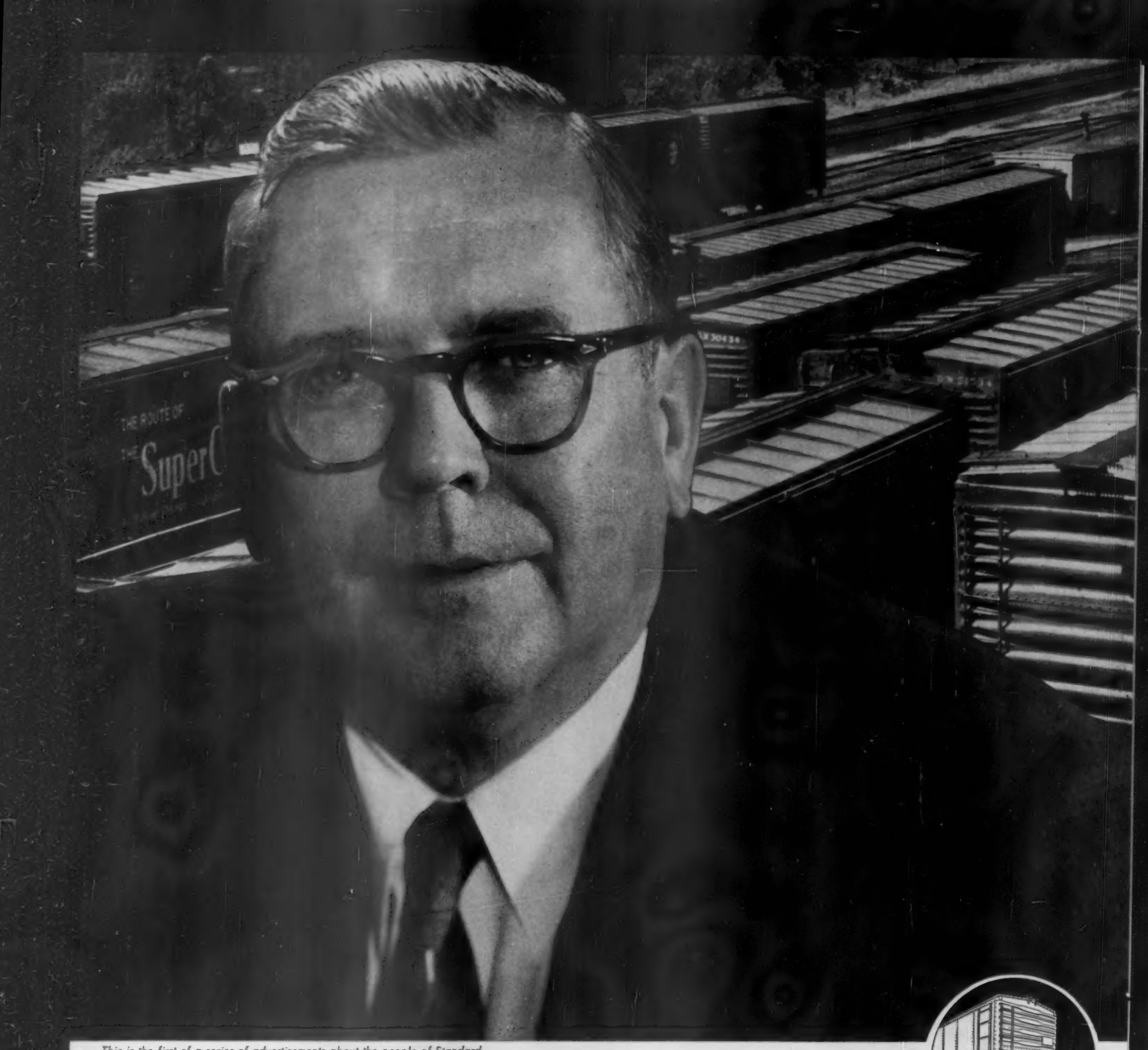
NOTE THIS *BAFFLE* DESIGN which keeps rain, snow, cinders and shipper's ILL-WILL *OUT!*

The one man, one hand door.

SUPERIOR

CAR DOOR COMPANY
332 SOUTH MICHIGAN AVE. • CHICAGO 4

S-7



This is the first of a series of advertisements about the people of Standard.

SERVICEMAN, SALESMAN and cribbage champion

Meet Bill Olds.

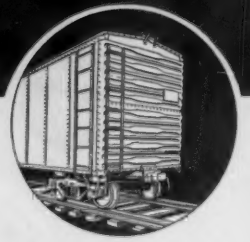
Bill is Standard Railway's head of sales for the U.S.A. This makes him—also—chief serviceman.

Everyone agrees that Bill's record as a serviceman and salesman for Standard equipment is outstanding. There are those who challenge his championship claims about cribbage.

He quickly admits that his golf game is the week-end variety—and keeps trying.

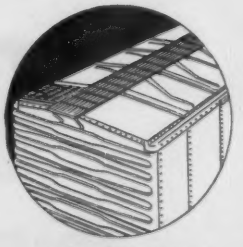
But when it comes to business Bill is tops. Bill Olds and the men under him in Standard's organization pride themselves on a great reputation for *first quality products* and for giving their customers *first class service*.

Whether your order is for one car or hundreds, Bill is the kind of real salesman who is truly "at your service"—as close as your telephone.



Improved Dreadnaught End

Standard Railway components are *lighter* for equal strength, *stronger* for equal weight . . . *increased* car life . . . greater profitability.



Diagonal Panel Roof

Adds structural rigidity to the car. Costs less to buy and use. Makes money by keeping cars *on the line*.

Standard RAILWAY EQUIPMENT MANUFACTURING COMPANY

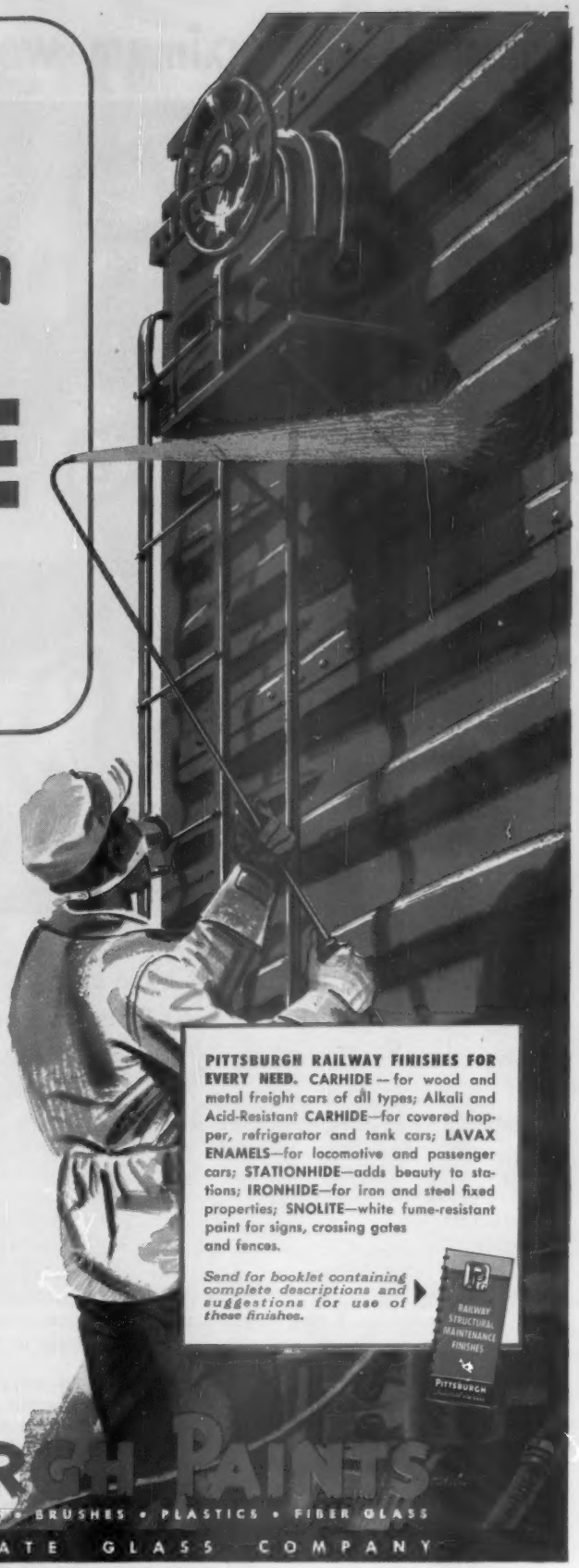
GENERAL OFFICE: 4527 Columbia Ave., Hammond, Ind. • New York • Chicago • St. Paul • San Francisco

Standard Railway Equipment Manufacturing Company, (Canada) Ltd., Sun Life Building, Montreal

Get Freight Cars In Service Faster!

use Pittsburgh HOT-SPRAY CARHIDE

The Two-in-One Freight Car Paint



MORE pay hours from your freight rolling stock—that's what you get when you paint it with Pittsburgh's *Hot-Spray* CARHIDE. This latest development in Pittsburgh's famous railway finishes equals *two coats* of paint applied cold. You put cars into service faster and keep them looking better longer.

No matter when you paint—Pittsburgh's *Hot-Spray* CARHIDE goes on more uniformly, dries faster to a higher gloss, and gives you tougher, longer-lasting protection. Because heat is used in place of conventional thinner, the viscosity is automatically adjusted to weather and temperature conditions.

You paint more quickly with *Hot-Spray* CARHIDE because it can be applied with less air pressure. This means the amount of "fog" in the paint shop is materially reduced, so more of the solid material reaches the surface. There is less paint sag—more paint is applied with less labor. And, because there is less thinner to evaporate, imperfections resulting from shrinkage are kept to a minimum.

Inasmuch as Pittsburgh's *Hot-Spray* CARHIDE greatly speeds up refinishing time, shop capacity is practically *doubled* without increasing space, manpower or equipment. We'll be glad to give you further information about this new kind of freight car paint without obligation.

PITTSBURGH PLATE GLASS CO. Factories: Milwaukee, Wis.; Newark, N.J.; Springdale, Pa.; Atlanta, Ga.; Houston, Texas; Torrance, Calif.; Portland, Ore. Ditzler Color Div., Detroit, Michigan. Thresher Paint & Varnish Division, Dayton, Ohio. Forbes Finishes Div., Cleveland, Ohio. M. B. Suydam Div., Pittsburgh, Pa.

PITTSBURGH RAILWAY FINISHES FOR EVERY NEED. **CARHIDE**—for wood and metal freight cars of all types; Alkali and Acid-Resistant **CARHIDE**—for covered hopper, refrigerator and tank cars; **LAVAX ENAMELS**—for locomotive and passenger cars; **STATIONHIDE**—adds beauty to stations; **IRONHIDE**—for iron and steel fixed properties; **SNOLITE**—white fume-resistant paint for signs, crossing gates and fences.

Send for booklet containing complete descriptions and suggestions for use of these finishes.

PITTSBURGH PAINTS

PAINTS • GLASS • CHEMICALS • BRUSHES • PLASTICS • FIBER GLASS

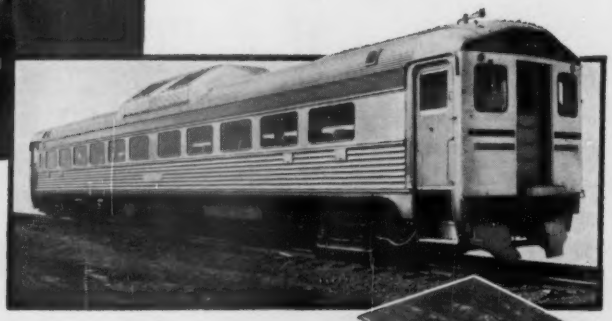
PITTSBURGH PLATE GLASS COMPANY

IN CANADA: CANADIAN PITTSBURGH INDUSTRIES LIMITED

Selected for maximum wear with minimum care

Johns-Manville TERRAFLEX Vinyl Floor Tile

. . . in Budd Company R.D.C. all-stainless steel passenger cars



Heavy traffic in this Budd Company R.D.C. diesel-powered passenger car has little effect on the durable J-M Terraflex floor. A damp-mopping whenever necessary, will restore it to its first-day color beauty.

J-M Terraflex® needs less care and gives more wear than any other type of resilient floor of equal thickness . . . pays for itself through years of low-cost maintenance

As a result of its tested performance in railroad car installations, Johns-Manville Terraflex Vinyl Floor Tile is standard equipment in the Budd Company's new R.D.C. passenger cars.

J-M Terraflex is a flooring of time-proved superiority. Made of vinyl and asbestos it is exceptionally tough and resistant to traffic . . . defies grease, oil, strong soaps and mild acids.

Terraflex saves time and dollars through low-cost maintenance. Its nonporous surface requires no hard scrubbing . . . damp-mopping keeps it clean and bright . . . frequent waxing is eliminated. Through years of economical service Terraflex pays for itself.

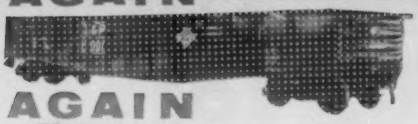
Terraflex is available in a wide range of pleasing colors that will bring beauty as well as utility to floors in cars and buildings.

For the full Terraflex story . . . and its advantages for railroad service, get in touch with your Johns-Manville Representative or write for book FL 73A "Designs for Better Floors." Address Johns-Manville, Box 60, New York 16, N.Y.

JOHNS-MANVILLE JM PRODUCTS

Johns-Manville

97 YEARS OF SERVICE TO TRANSPORTATION



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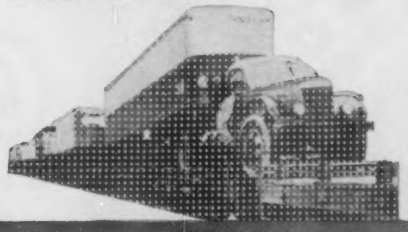

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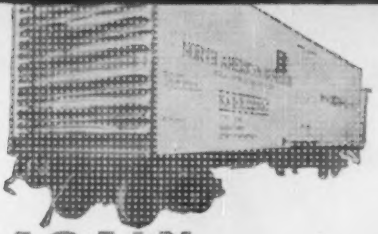
INTERNATIONAL STEEL'S PRECISION CONSTRUCTION PROVIDES A SPECIAL PURPOSE CAR AT LOWER COST!

A precision-built pulpwood car . . . one of an order for the BOSTON AND MAINE. All-welded bulkheads—and the famous all-welded *International* underframe. *This car cost less to build than it would have cost to rebuild an old car!*



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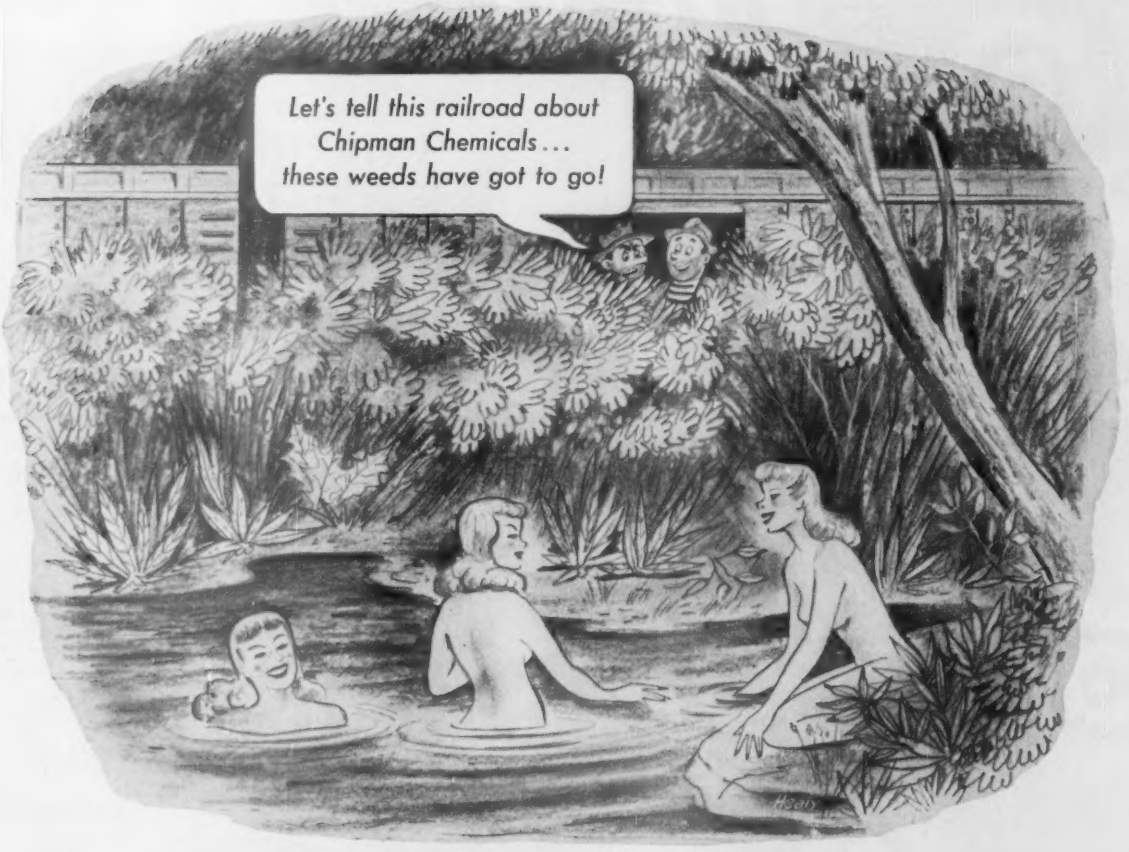
AGAIN

International's corrective design has proved itself . . . engineering and construction that still has a history of NO failures!

NOW! Look for remarkable *new* freight car developments from International through "functional design". Aggressive development that is producing a new concept in lading handling and stowage for the railroads and shippers!

INTERNATIONAL STEEL COMPANY
EVANSVILLE 7, INDIANA
RAILWAY DIVISION



Chipman Chemical Company weed killers, brush killers and application service are backed by over 40 years of experience in serving railroads. An extensive line of weed, grass and brush killing chemicals is available to meet varying conditions. Included are the following:

Atlacide	Atlas "A" Arsenical
Chlorax	Atlas "D"
Chlorax "40" • Chlorea	Brush Killer
TCA-Chlorax	Telvar W
Methoxone-Chlorax	Borax • Dalapon

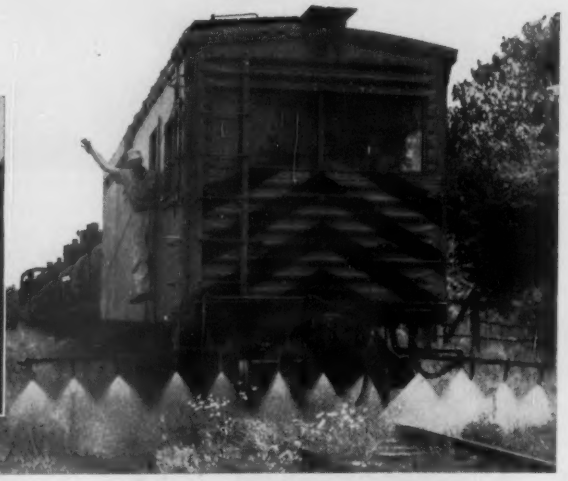
Let us solve *your* weed problems with the *right* chemicals and application service.

CHIPMAN

Chemical Company, Inc.

Bound Brook, New Jersey

16 Strategically Located Chipman Plants



LEFT: This is all that remained after a wall of water swept away a 100-year-old stone arch bridge on the Erie's mainline near Shohola, Pa., as a direct result of Hurricane Diane.

from blueprint to finished bridge in 9 days!

How American Bridge helped the Erie RR meet the emergency of disastrous Diane.

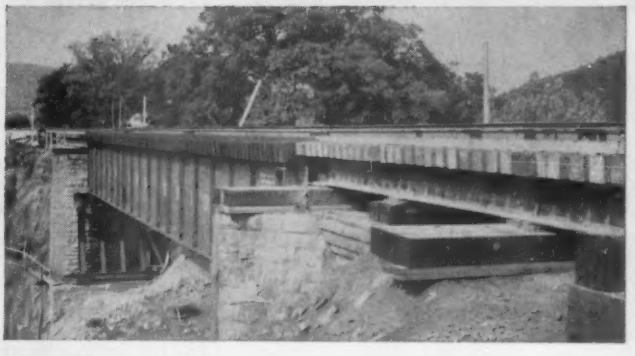
When Hurricane Diane's floods swept down the Delaware Gorge in August 1955, among the many washed-out bridges was the 100-year-old stone arch on the mainline of the Erie Railroad over Panther Creek at Shohola, Pa. *The wreckage was so complete that restoration seemed months away.*

Alerted to the emergency, American Bridge engineers, cooperating with the Erie's engineers, were on the job after the flood. An inspection of existing foundations revealed that they were adequate to support a modern steel girder bridge.

Verbal orders and specifications for replacement plans were received at the Ambridge works of American Bridge on August 31st. The fabricating shops were ready to begin work when the blueprints arrived two days later, although some of the steel for the 50-ton girders was yet to emerge from the open hearths and rolling mills.

Using every means at its command to speed fabrication, American Bridge was able to ship the two 109-foot girders in a record 8 days. The job was completed at the site at 8 A.M., Saturday, September 10th, thus enabling the Erie Railroad to resume traffic over its mainline in just 9 days after American Bridge first received specifications for the big girders.

Here again is another example of how American Bridge serves the railroads. Whether you are in trouble or not, it will pay you to call us in on your bridge fabricating and erecting requirements.



INTERESTING MOTION PICTURES AVAILABLE—"Building for the Nations" and "The Suspension Bridge," two entertaining and educational films, are now available without charge to business, fraternal, and civic organizations, churches, schools and colleges. Write to Pittsburgh office for bookings.

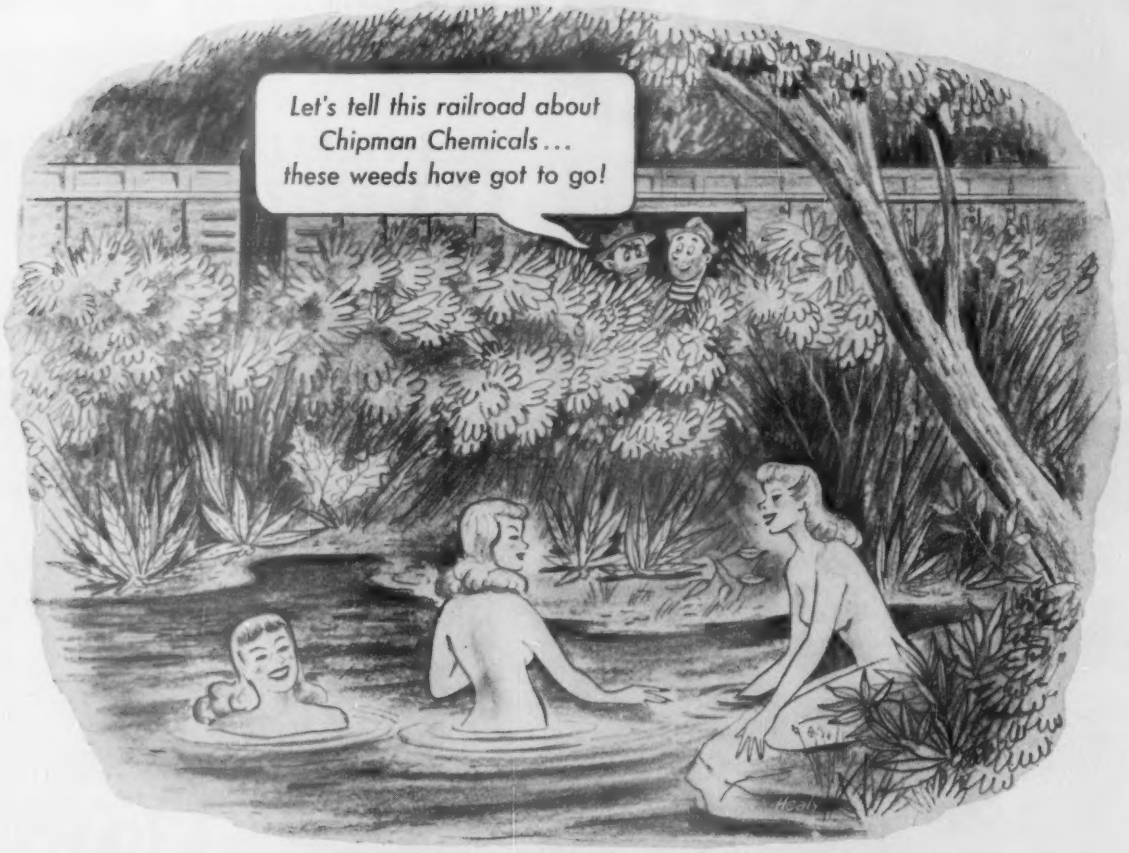
AMERICAN BRIDGE DIVISION, UNITED STATES STEEL CORPORATION, GENERAL OFFICES: 525 WILLIAM PENN PLACE, PITTSBURGH, PA.

Contracting Offices in: AMBRIDGE • ATLANTA • BALTIMORE • BIRMINGHAM • BOSTON • CHICAGO • CINCINNATI • CLEVELAND • DALLAS • DENVER • DETROIT • ELMIRA GARY • HOUSTON • LOS ANGELES • MEMPHIS • MINNEAPOLIS • NEW YORK • ORANGE, TEXAS • PHILADELPHIA • PITTSBURGH • PORTLAND, ORE. ROANOKE • ST. LOUIS • SAN FRANCISCO • TRENTON • UNITED STATES STEEL EXPORT COMPANY, NEW YORK

USS

AMERICAN BRIDGE

UNITED STATES STEEL



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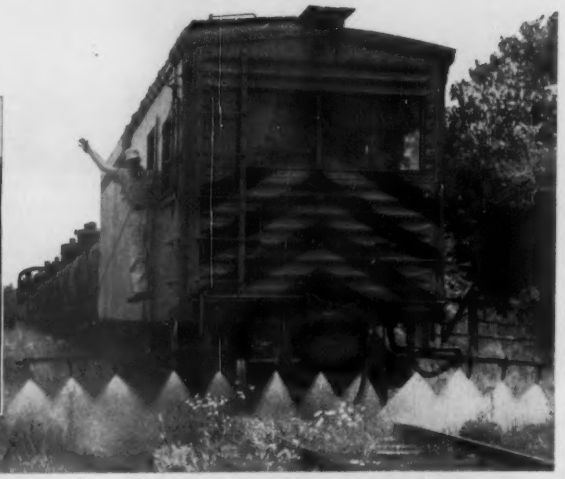

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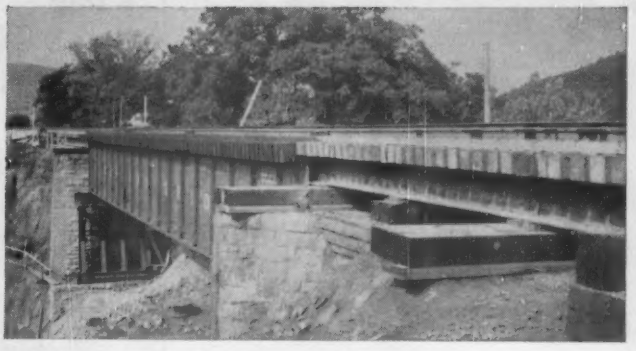

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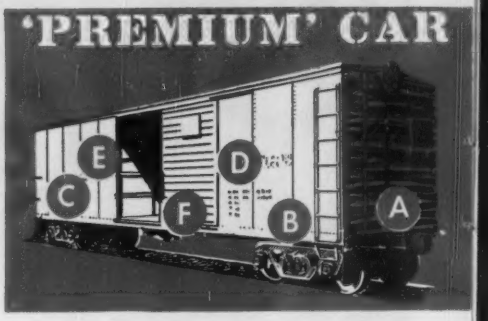
USS

AMERICAN BRIDGE

UNITED STATES STEEL

GOOD NEWS FOR SHIPPERS!



Railroads and Car Operators are buying 'PREMIUM' cars

4256

Cushion Underframe

equipped cars of WAUGH design

now in revenue service, under construction or on order

'PREMIUM' CARS

To ship

DRY ICE

20 Waugh High-Capacity Cushion Underframes now in service, and 25 Waugh Super-Capacity Cushion Underframe cars now under construction.

WAUGH *Cushion Underframe*

To ship

Bananas

'PREMIUM' CARS

The record of Cushion Underframe cars in banana shipments shows much less lading damage than for cars equipped with any other type of cushioning device.

WAUGH *Cushion Underframe*

'PREMIUM' CARS

To ship

MEAT

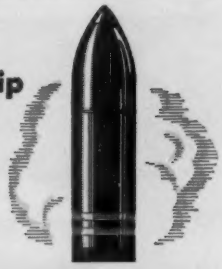
A large midwest packer is using 800 Waugh Cushion Underframe cars, showing a phenomenal record of lading protection. Over an 18 month period, meat-down damage is just short of zero.

WAUGH *Cushion Underframe*

WAUGH EQUIPMENT COMPANY NEW YORK

'PREMIUM' CARS

To ship



AMMUNITION

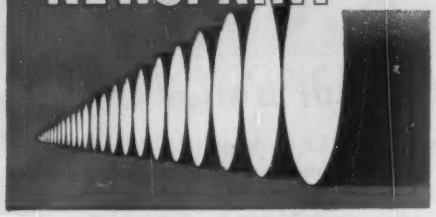
Currently 880 Waugh Cushion Underframe cars are being used to safeguard shipments of shells from Ordnance plants.

WAUGH *Cushion Underframe*

'PREMIUM' CARS

To ship

NEWSPRINT



Newsprint from Northern paper mills is being shipped regularly in Waugh Cushion Underframe cars, with practically no lading damage.

WAUGH *Cushion Underframe*

'PREMIUM' CARS

To ship

Beer

To reduce present high lading damage in beverage shipment, a western railroad has ordered Waugh Cushion Underframe cars for earliest possible delivery.

WAUGH *Cushion Underframe*

PREMIUM cars, Waugh Cushion Underframe equipped, assure extraordinary and proven protection for lading. Waugh equipped cars roll safely at high speed. Waugh High-Capacity Cushion Underframe *cushions* the pull-outs, run-ins, and classification yard impacts.

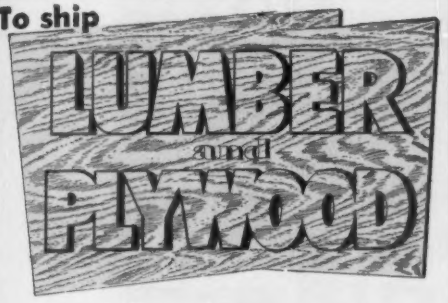
Shippers give unstinted praise for lading-guarding Cushion Underframe cars. Railroads, too, find that the extra protection reduces car repairs and increases car availability and revenue mileage.

More than 100,000 Waugh (and their Duryea prototype) Cushion Underframe cars are now in service. For car and lading protection, for more satisfied customers, equip new cars with Waugh High-Capacity Cushion Underframes.

'PREMIUM' CARS

To ship

LUMBER and PLYWOOD



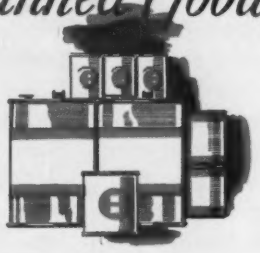
700 Waugh High Capacity Cushion Underframe box cars on order by one railroad. Of these, 500 with 15' doors to facilitate loading lumber and pulpwood. Balance of order, box cars for shipment of all types of fragile lading.

WAUGH *Cushion Underframe*

'PREMIUM' CARS

To ship

Canned Goods



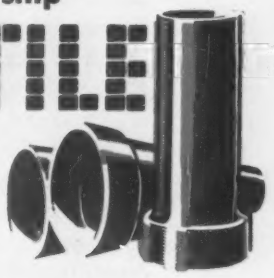
Waugh Cushion Underframe cars, bought by one railroad for shipping canned goods and other normally high damage claim lading. 100 cars on order.

WAUGH *Cushion Underframe*

'PREMIUM' CARS

To ship

TILE



Waugh Cushion Underframe equipment has set a record for practical elimination of lading damage in the regular shipment of tile—normally very high damage-claim freight.

WAUGH *Cushion Underframe*

CHICAGO ST. LOUIS Canadian Waugh Equipment Company, Montreal

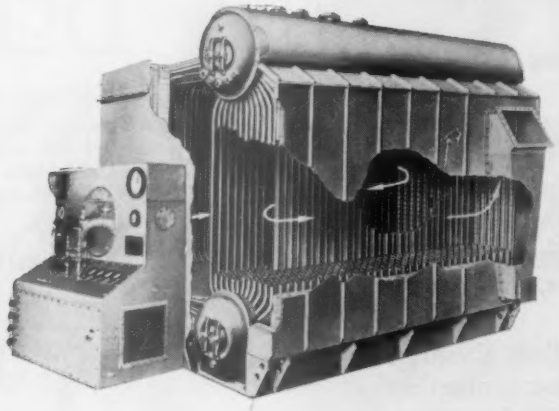
FOR STEAM CAPACITY up to 60,000 POUNDS

Choose your boiler from these two

If you burn oil or gas, investigate the VP Package Boiler for capacities up to 40,000 pounds per hr . . . the VU-10 up to 60,000 pounds.

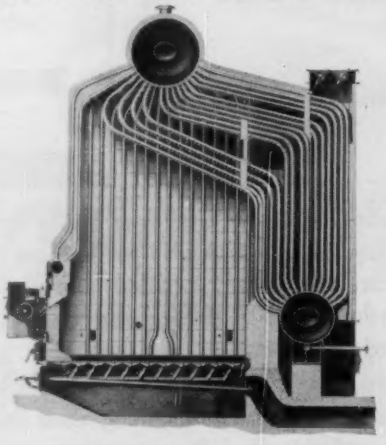
For stoker firing, the VU-10 is available from 10,000 to 60,000 pounds of steam per hour.

Whatever your fuel . . . whatever your steam capacity requirements up to 60,000 pounds per hour . . . you'll find that one of the Combustion Engineering Boilers described below will be just right for you.



The VP boiler

The C-E Package Boiler, Type VP . . . is completely shop-assembled . . . for oil or gas firing. It is available in capacities from 4,000 to 40,000 lb steam per hr; for pressures to 500 psi. The VP Boiler has more water-cooled area per cubic foot of furnace volume than any other boiler of its size and type. The large (30-in. diameter) lower drum permits a simple, symmetrical tube arrangement . . . greater water storage capacity . . . easy access for washing down or inspection. A low-speed, centrifugal fan, which is exceptionally quiet in operation, is standard equipment. Baffle arrangement is simple, resulting in low draft loss . . . simple soot blowing . . . high heat absorption. The unit is pressure fired . . . has welded, gastight, steel casing . . . requires no induced-draft fan.



The VU-10 boiler

The VU-10 Boiler is designed for industrial load conditions, particularly for plants with small operating and maintenance forces. Capacities range from 10,000 to 60,000 lb steam per hr . . . pressure to 475 psi . . . heat recovery equipment is available if desired. Fuel can be either coal (C-E Spreader, Traveling Grate or Underfeed Stoker), oil or gas. This boiler is a completely standardized design adaptable to many conditions. It responds readily to variations in load; is simple to operate and maintain. All parts are easily accessible for inspection. Like the VP, the VU-10 Boiler is a complete unit – boiler, furnace setting, fuel-burning equipment, controls, forced draft – bringing you the benefit of one contract . . . one responsibility.

Fully descriptive catalogs are available on both of these boilers. We'll be happy to send yours upon request.

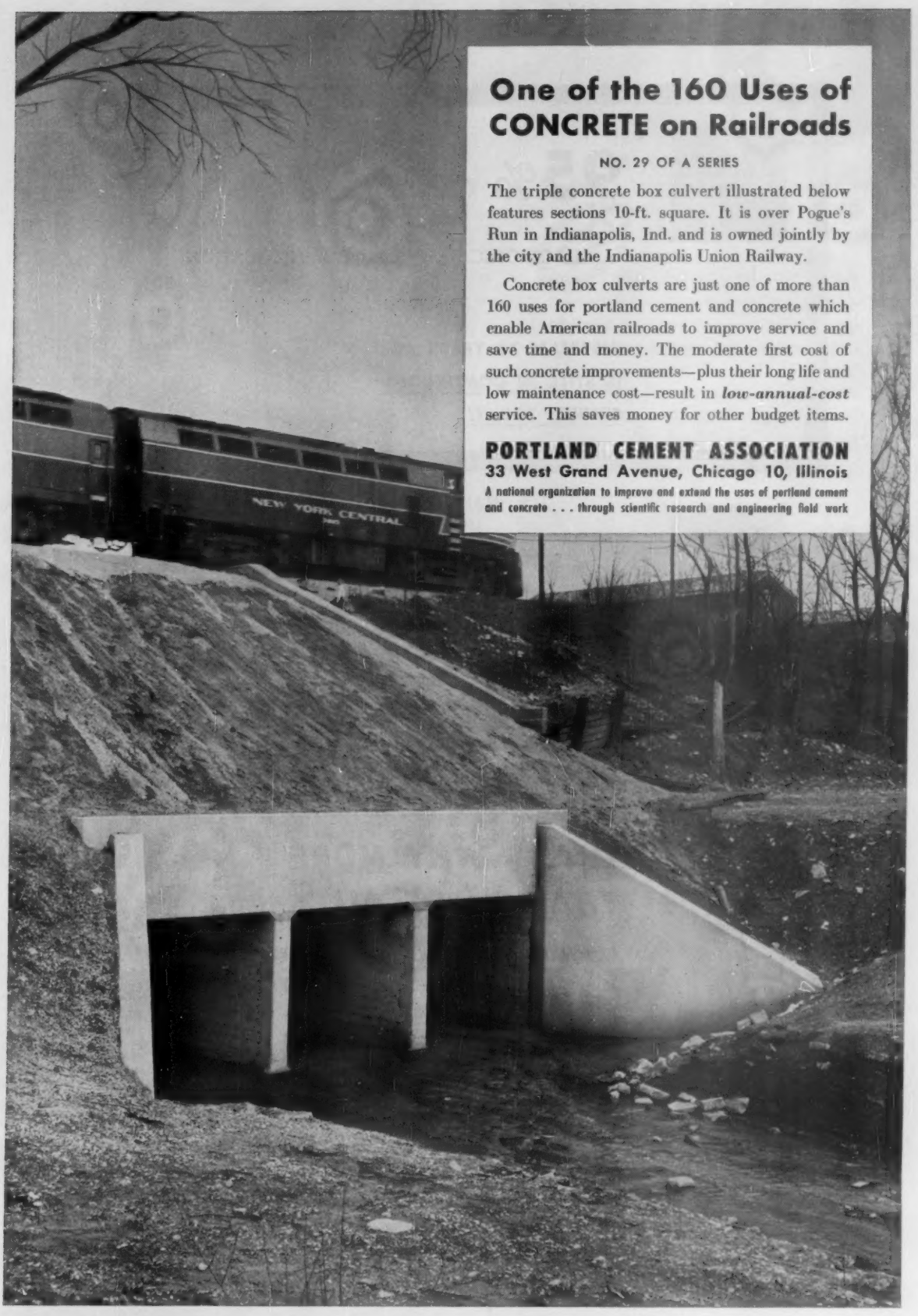
COMBUSTION ENGINEERING

Combustion Engineering Building • 200 Madison Avenue, New York 16, N. Y.

Canada: Combustion Engineering-Superheater Ltd.

B-8588

STEAM GENERATING UNITS; NUCLEAR REACTORS; PAPER MILL EQUIPMENT; PULVERIZERS; FLASH DRYING SYSTEMS; PRESSURE VESSELS; DOMESTIC WATER HEATERS; SOIL PIPE



One of the 160 Uses of CONCRETE on Railroads

NO. 29 OF A SERIES

The triple concrete box culvert illustrated below features sections 10-ft. square. It is over Pogue's Run in Indianapolis, Ind. and is owned jointly by the city and the Indianapolis Union Railway.

Concrete box culverts are just one of more than 160 uses for portland cement and concrete which enable American railroads to improve service and save time and money. The moderate first cost of such concrete improvements—plus their long life and low maintenance cost—result in ***low-annual-cost*** service. This saves money for other budget items.

PORTLAND CEMENT ASSOCIATION
33 West Grand Avenue, Chicago 10, Illinois
A national organization to improve and extend the uses of portland cement and concrete . . . through scientific research and engineering field work

FACT: 1

95% OF ALL

ELECTRONIC COMMUNICATION EQUIPMENT

INSTALLED 10 YEARS AGO
IS STILL IN CONTINUOUS
SERVICE TODAY!

FACT: 2

MAINTENANCE ON

ELECTRONIC COMMUNICATION EQUIPMENT

COSTS LESS THAN 50%

OF WHAT IT COSTS ON ANY OTHER MAKE!

FACT: 3

THAT'S WHY MORE THAN 2/3 OF ALL

REPORTED FREIGHT YARD INTERCOMMUNICATION EQUIPMENT INSTALLED LAST YEAR WAS SUPPLIED BY:

ELECTRONIC COMMUNICATION EQUIPMENT CO.

1249 WEST LOYOLA AVE., CHICAGO 26, ILL.

"Not Just Communication Equipment, but RAILROAD Communication Equipment Exclusively"

WORKING TOGETHER *for a* COMMON GOAL!

There are many incentives which spur America's business, and its employees, to the ever-increasing heights of inventiveness and productivity enjoyed in this nation today.

Profit, prestige, satisfaction with a job well done, desire to improve standards of living, creativeness — all play a vital role in every business organization.

They have been, and will continue to be, part of the motivating force behind the tremendous strides made in the past decade at Kershaw Manufacturing Company.

But there's one other ingredient at Kershaw, and we think it is the most important, by far.

Kershaw Manufacturing Company is dedicated to the pleasant task of helping America's railroads solve whatever trackwork problems they might have and thereby attain even higher standards of successful operation.

At Kershaw, we are truly working with the railroads for a common goal.

KERSHAW
MANUFACTURING CO. INC
MONTGOMERY **ALABAMA**

TRACKWORK EQUIPMENT DEVELOPED AND PROVEN ON THE JOB

KERSHAW BALLAST REGULATOR, SCARIFIER AND PLOW — KERSHAW KRIBBER — MOCAR CRANE — UTILITY DERRICK TWO-TON RAIL DERRICK — CRIB ADZER — STANDARD JACK-ALL — TRACK CRANE—TIE REPLACER—TIE BED CLEANER TRACK BROOM — UNIVERSAL SET-OFF ASSEMBLY — BALLAST UNDER CUTTER-SKELETONIZER — BALLAST CLEANER AND DISTRIBUTOR — ROTARY TRACK MOWER — SPOT-TAMPER — TIE SPACER

STEAM HEAT BARCO CONNECTIONS

Season-to-Season Service without Maintenance

"Still the Simplest"

—No. 1 Reason Why Barco Leads!

NOW, as always, Barco Steam Heat Connections give you season-to-season service without worry about maintenance. Users have found they can depend on Barco connections to stand up and stay tight!

This means a BIG SAVING in maintenance costs. *A comparative check of gasket consumption in your car yards can be very enlightening.* MAKE THIS CHECK—others have and now use Barco. Let us give you the facts. BARCO MANUFACTURING CO., 501B Hough Street, Barrington, Illinois.

THE GASKETS LAST!

— *Not necessary to provide facilities for maintenance at way points.*

— *No changing of gaskets; no storing of gaskets at way points.*

REPORTS FROM USERS—

2 Years without Gasket Change . . .

"Barco Steam Heat Connections on our _____ streamliner have gone more than two years without a gasket change."

Makes Test . . .

"We started a test of Barco Connections on our road. A year later we ordered another sixty and only one was removed in a year."

Longer Service . . .

"Tests have proved that Barco Connectors withstand diesel dry steam better and give longer service. Annual removal and repairs program has proved Barco superior."

Less Maintenance . . .

"We are installing Barco connections as rapidly as possible because they require so much less maintenance."

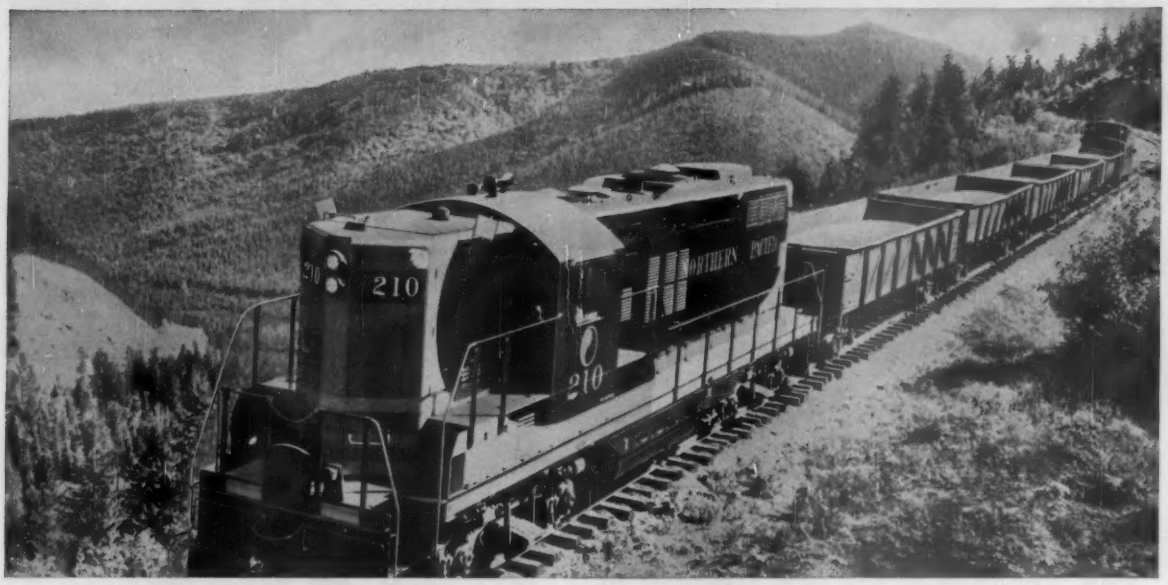
Go Without Attention . . .

"Barco 2½" Connections on Diesel locomotives are checked in the fall and, barring accidents, they go the full year without attention."

The Engineer's Field Report

CASE HISTORY
LUBRICANT RPM Delo Oil RR Special
FIRM Northern Pacific Railway, Missoula, Montana

Diesel still using original rings, bearings after 140,000 miles on mountain freight run



FOUR PERCENT GRADES and 16-degree curves make Northern Pacific's run through Lookout Pass a severe test for diesels. Locomotives haul ore and heavy equipment between Wallace, Idaho, and St. Regis, Montana, on a daily round-trip schedule of 114 miles. Using RPM DELO Oil RR Special, a GP-7 on this run has gone 140,000 miles with original rings and bearings—and is still in service. Northern Pacific says, "We have never had any trouble with this locomotive. It is still very clean, still performing well." Three other GL-7's and a GP-9 (above) have been used on the run during a 2½-year period. Northern Pacific Railway uses RPM DELO Oil RR Special in all road diesels on this run.

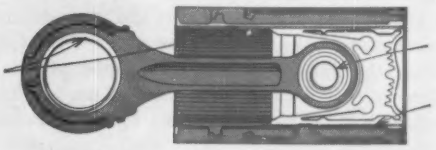
FOR MORE INFORMATION about petroleum products of any kind or the name of your distributor, write or call any of the companies listed below.

RPM DELO LUBRICATING OILS

TRADEMARK "RPM DELO" REG. U. S. PAT. OFF.

Why RPM DELO Oil RR Special prevents wear, corrosion, oxidation

Special additive provides metal-adhesion qualities...keeps oil on parts whether hot or cold, running or idle.



Anti-oxidant resists deterioration of oil and formation of lacquer...prevents ring-sticking. Detergent keeps parts clean... helps prevent scuffing of cylinder walls. Special compounds stop corrosion of any bushing or bearing metals and foaming in crankcase.

STANDARD OIL COMPANY OF CALIFORNIA, San Francisco 20 • STANDARD OIL COMPANY OF TEXAS, El Paso
THE CALIFORNIA OIL COMPANY, Perth Amboy, New Jersey • THE CALIFORNIA COMPANY, Denver 1, Colorado

FEDERAL MICROWAVE—"*CERTIFIED BY A WORLD OF RESEARCH*"

The system that's so right for railroad communications

Federal Microwave is the answer to dependable service for all railroad signaling and communications. Utilizing towers—spaced tens of miles apart—its circuits are free from the hazards and losses that go with every crippling storm. Cities, rivers, bays, swamps, deserts and mountain ranges are traversed without the purchase of legal right-of-way ... without the high cost of maintaining miles of wire lines.

Federal Microwave uses either Pulse-Time Modulation or Frequency Division . . . provides complete, integrated voice and signal facilities . . . dispatching, telegraph, teleprinter, carrier, interlocking, CTC signal, radio operation ... meeting every requirement with techniques developed by microwave specialists of the world-wide International Telephone and Telegraph Corporation.

The only microwave system with all equipment made under one roof, Federal is your assurance of uniform circuit quality . . . top dependability and performance.

Whatever your needs, Federal is ready to assist in planning links and networks of any length or channel capacity . . . all *"Certified by a World of Research."*

Federal

A DIVISION OF **IT&T**

For information on your requirements, write to RAILROAD DIVISION, Dept. P-747.

Federal Telephone and Radio Company
A Division of INTERNATIONAL TELEPHONE AND TELEGRAPH CORPORATION
100 KINGSLAND ROAD • CLIFTON, NEW JERSEY
In Canada: Standard Telephones and Cables Mfg. Co. (Canada) Ltd., Montreal, P. Q.
Export Distributors: International Standard Electric Corp., 67 Broad St., New York

LOWER MAINTENANCE COSTS ALL THE WAY...

Amcreco
Lowry Process
Creosoted Products

Bridge Timbers
Adzed and Bored Cross Ties
Poles
Plank

●

Pressure treated for
Strength that lasts!

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with AMCRECO Creosoted Products

Long service life with minimum maintenance—that's how Amcreco quality products reduce maintenance-of-way costs to the lowest possible level. Amcreco cross ties, bridge timbers, poles and plank last longer with greater strength because they are pressure treated in creosote by experienced Amcreco methods.

Start now and lower your maintenance-of-way costs by taking advantage of our nearly half a century of wood treating experience. Call your nearby Amcreco sales office for positive information on maintenance cost reduction.

AMERICAN CREOSOTING COMPANY

COLONIAL CREOSOTING COMPANY INCORPORATED

AMCRECO

GEORGIA CREOSOTING COMPANY INCORPORATED

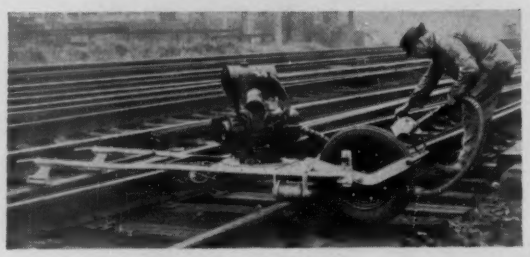
GENERAL SALES OFFICE—CHICAGO, ILLINOIS
10 FIELD SALES OFFICES TO SERVE YOU

Service More Track, in Less Time, for Less Money *with* RTW GRINDERS and DRILLS

RTW Grinders and Drills speed up your maintenance work—enable you to keep rails in apple-pie order without crowding your track gangs—and save you money, too. Three popular RTW machines are shown here. All are easy-handling, with quick on/and/off rail action.

MODEL P-44 PORTABLE FLEXIBLE SHAFT GRINDER, designed to give added savings in labor and costs when laying new track or repairing old.

Grinder's 360° swivel engine mount prevents short bends and kinking of flexible shaft . . . clutch assembly in the engine protects shaft from overload . . . three position wheel clears switches and crossovers easily . . . quickly adaptable for auxiliary equipment: Straight Hand Wheel Piece, Angle Hand Piece for Cup Wheel, Cross Grinder Guides and Track Drill.



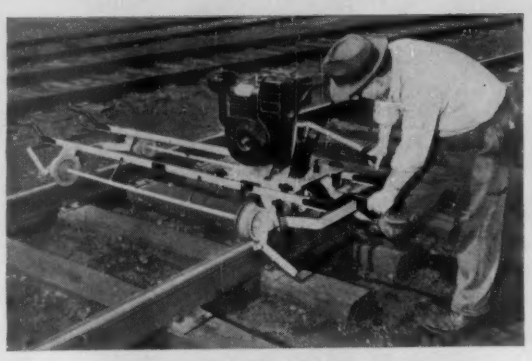
MODEL P-44

MODEL P-11-S PORTABLE CROSS GRINDER, a real time saver for removing overflow metal at rail ends as well as cross grinding behind welding crews.

Grinding wheel spindle and gasoline engine pivot 360° —you work both the rails with only one grinding head. Equipment mounted on transverse carriage which operates on ball bearings running on steel guides.

Pivoted foot clamping device with automatic release holds grinder firmly against rails during slotting.

Hinged and coil-spring-mounted handle for feeding 8" grinding wheel permits easy operation, any depth of cut.



MODEL P-11-S

MODEL P-43 POWER TRACK DRILL gives you 60-second drilling—quick, accurate drill-levelling—easy-acting, easily-controlled screw feed—easy-handling (aluminum castings keep weight down to 125-lbs.) . . .chuck jaws that take beaded tips up to 1½" and automatically stay open when chuck is loosened.

Telescopic extension on rail head bracket for drilling at heel of switch. Levelling device gives perfect alignment for drilling holes through angle bars and bare rails.

MODEL P-43

Investigate these and other cost-saving RTW track maintenance machines—write for literature.

Railway Track-work Co.

3207 KENSINGTON AVE., PHILADELPHIA 34, PA.

Specialists in Track Maintenance Equipment.

Rail Grinders • Switch Grinders • Cross Grinders • Surface Grinders • Rail Drills • Ballast Extruders • Bit Sharpeners • Tie Nippers • Grinding Wheels • Cut-off Wheels • Track Liners

ORIGINAL WOOD ENGRAVING BY B. BRUSSEL-SMITH

confidence . . . and the X-2 wheel

An overwhelming vote of confidence has been cast for our new AARX-2 steel wheel—over *fifty* railroad customers have ordered more than 50,000 of these 1.5% carbon wheels in the first brief year of commercial production.

Behind this acceptance of the Southern® cast steel wheel are eight years and nearly six million car-miles of road service. Not one wheel failure has occurred.

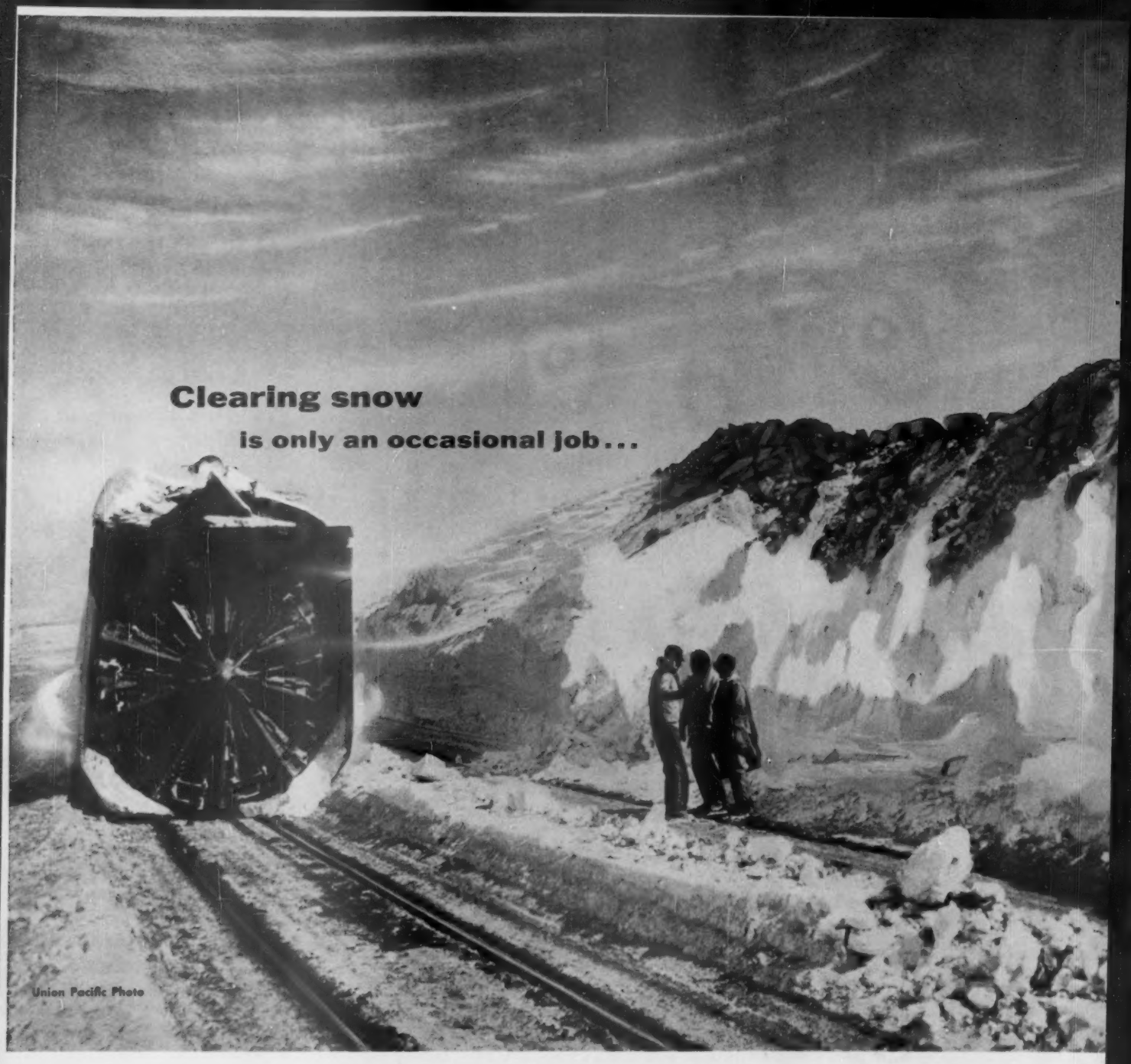
On such records of performance is true confidence built.

SOUTHERN WHEEL DIVISION

AMERICAN Brake Shoe COMPANY

230 PARK AVENUE, NEW YORK 17, N. Y.

A-7970



IMPROVED HIPOWERS

IMPROVE TRACK

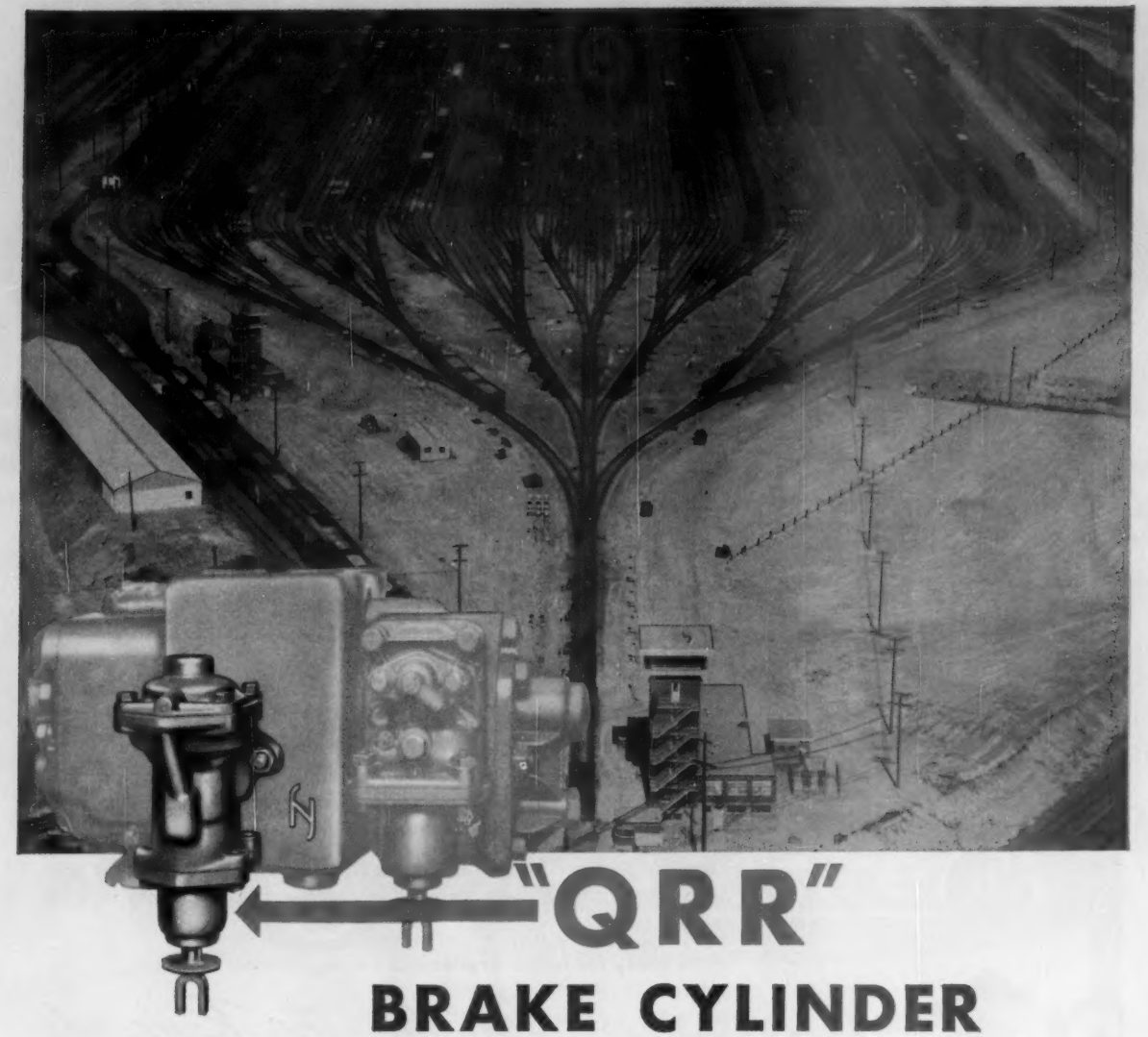
. . . but maintaining a fine roadbed all year round is a never-ending task.

From the bitterest cold of winter to the hottest summer days rails and joints are racked and wrenched by expansion and contraction. The pounding and battering of heavy traffic increase the strain.

Powerful spring washers ease this strain by absorbing shocks and stresses, by equalizing bolt tensions, and by protecting rail ends and joints.

THE NATIONAL LOCK WASHER COMPANY, NEWARK 5, N. J., U. S. A.

A COMPLETE LINE OF RAILWAY SPRING WASHERS



"QRR"

BRAKE CYLINDER RELEASE VALVE

Modern classification yard economies can be augmented by the use of "QRR" Brake Cylinder Release Valves—the *proven* design authorized by the A.A.R. for *unlimited* applications.

After being tripped, the "QRR" Brake Cylinder Release Valve automatically takes over to "bleed" the brake cylinder on incoming cars without requiring the operator to hold the release valve open. This operation retains the air in the auxiliary and emergency reservoirs so that the average newly made-up outgoing train can be charged in less than half the usual time.

Get full information on this proven design . . . *WRITE TODAY!*

THE NEW YORK AIR BRAKE COMPANY

230 PARK AVENUE • NEW YORK 17, N. Y.

Lackawanna · RDG · The Southern Serves the South · Boston and Maine Railroad · Jersey Central Lines · Canadian Pacific · C&O Progress · Illinois Central · New York Central System · Atlantic Coast Line · Indiana Harbor Belt · B&O Linking 13 Great States with the Nation

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SPENO

BALLAST CLEANING and RAIL GRINDING SERVICE

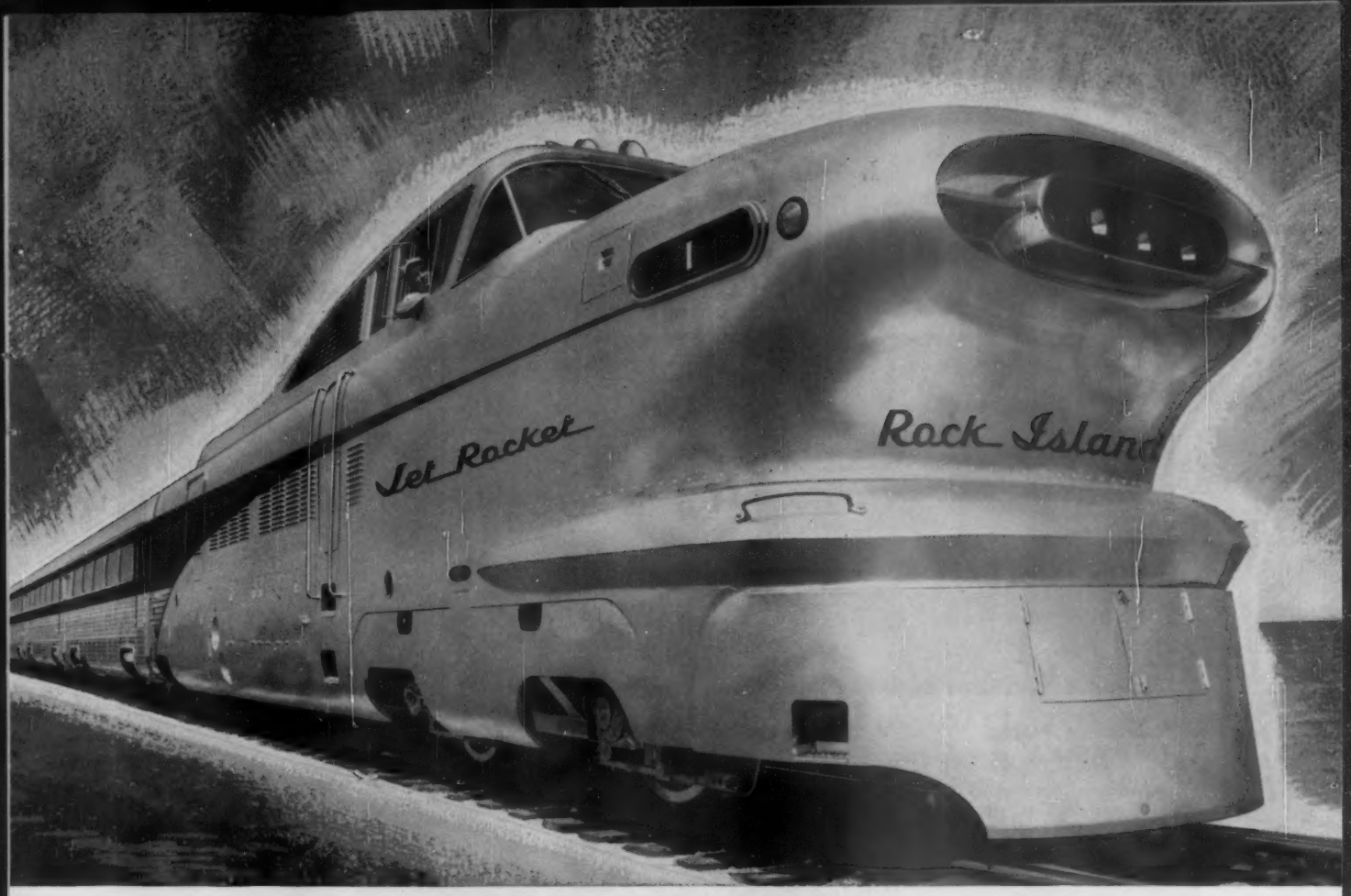
The exclusive SPENO Method of Ballast Cleaning and the SPENO Rail Grinding Train have proved themselves to be time, cost, and maintenance savers for our contractual clients.

You may contract for one or both of these services—secure that you have joined company with many other outstanding and forward looking railroads.

Write today for future availabilities of equipment.

Just Ask the Railroads That have used us!

FRANK SPENO RAILROAD BALLAST CLEANING CO., INC.
306 North Cayuga St., Ithaca, N. Y.



Fuel for The Jet Rocket

...and lubricants, too...by STANDARD OIL

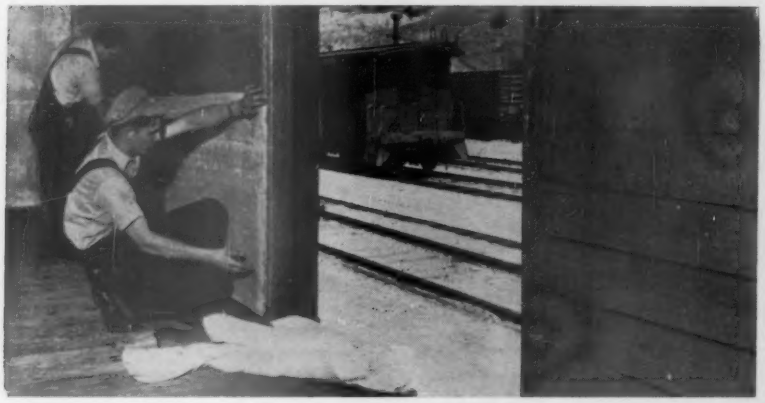
SIXTY YEARS! Yes, six decades ago Standard Oil started to serve the Rock Island with lubricants. Twenty years ago Standard became one of the first to supply diesel fuels to this great railroad. The Rock Island's Jet Rocket, superspeed streamliner carrying passengers between Chicago and Peoria will be fueled for one of the fastest surface schedules on this continent with Standard Oil diesel fuel. Lubricants for the Jet Rocket are compounded from Standard basic lubricating oils.

As with the Rock Island, railroaders in 15 Midwest and Rocky Mountain states look upon Standard Oil as a dependable source of supply for diesel fuels and lubricants.

STANDARD

STANDARD OIL COMPANY (Indiana)
910 South Michigan Avenue, Chicago 80, Illinois

What's New in Products



Reinforced Plastic Freight Car Liner

A method for rapidly relining damaged interiors of freight cars with Fiberglas reinforced plastic has been developed. The system is said to permit repair of cars out of service because of contaminated linings in less time than conventional methods.

According to the manufacturer, stained, broken or rough linings can be permanently patched in one-fourth the usual time. Cars with extensive interior damage have been completely relined by two men in 2 to 3 hr. A single layer of the plastic and glass cloth laminate has a tensile strength of 10,460 psi. Additional coats may be applied as required. After drying, the plastic remains hard up to 240 deg F and flexible down to minus 30 deg F.

Called Freight Liner, the product is applied by spraying a coating of plastic resin on the walls or deck of the cars. No scouring, sanding or other surface preparation is needed on either wood or metal. While the resin is still wet, a layer of glass fabric is smoothed on the surface and sprayed with a second coating. The system provides spray guns equipped with hand trucks. Resin is shipped in 55-gal drums and is used in 5 gal buckets attached to the spray equipment. *T. J. Fleming Co., 1814 Oak st., Kansas City 4, Mo.* ●

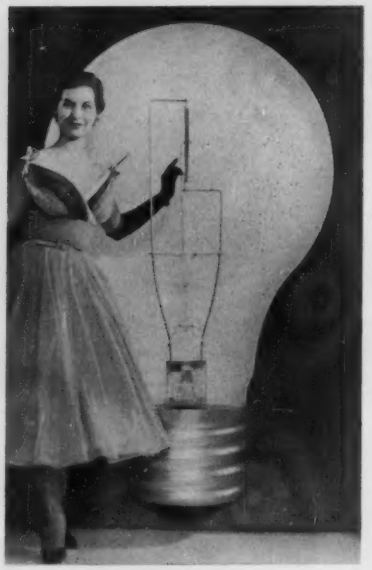
New Fabric

A new fabric which is woven flat but becomes permanently three dimensional when dipped in boiling water has just been introduced. Its first use, according to the manufacturer, will be as an upholstery fabric, where the cushioning effect of its three-dimensional structure offers free circulation of air between the person and the seat.

The fabric, called Trilok, is said to utilize a radically different method of manufacture in which shrinkage, hitherto an undesirable feature in textiles, is used purposely under controlled conditions to achieve new patterns and textures, and a third dimension, depth. It is woven on a regular loom with polyethylene yarn and conventional fibers. *United States Rubber Company, 1230 Avenue of the Americas, New York 20* ●

Incandescent Lamp

Filament design of GE incandescent lamps has been changed to give greater illumination with the same current consumption. The new design mounts the filament lengthwise in the bulb instead of across it. The coiled-coil filament will be universal and replaces the single coil filament previously used. The result of these changes is said to be an increased light output of six per cent for household bulbs and an industrial-bulb output increase of as much as 15 per cent.



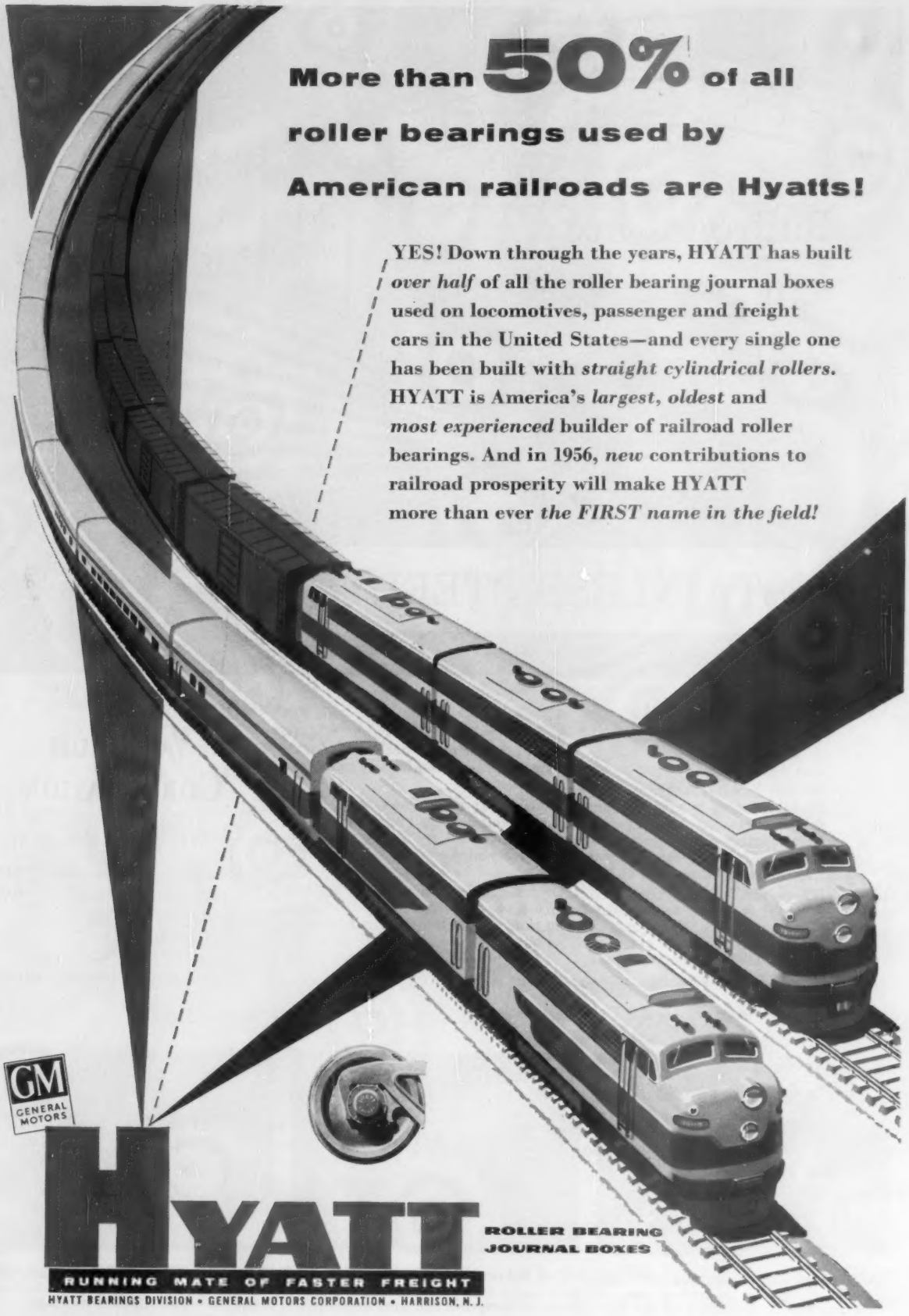
The change is immediately available in the 750 watt and 1,000 watt sizes where it is to have maximum benefit. It will be extended to the smaller lamps over the next few years as rapidly as necessary production equipment can be installed. Household bulbs already use the coiled-coil filament. The axial filament location will permit the filament to burn at higher temperatures without shortening life, and it will cause bulb blackening to be concentrated in a smaller area permitting more light to get out of the bulb. *Lamp Division, General Electric Company, Nela Park, Cleveland 12, Ohio* ●

Crawler-Drawn Scraper

A new cable-operated, crawler-drawn scraper with a struck capacity of 18-cu yd and a heaped capacity of 25-cu yd is known as the Caterpillar No. 463. It features a "Lowbowl" design.

This design is said to reduce loading resistance because of its lower sides and longer and wider bowl which provides a low lifting height that is said to reduce internal friction during the loading operation. Positive dozer-type ejection has also been

(*Continued on page 122*)



More than 50% of all roller bearings used by American railroads are Hyatts!

YES! Down through the years, HYATT has built *over half* of all the roller bearing journal boxes used on locomotives, passenger and freight cars in the United States—and every single one has been built with *straight cylindrical rollers.* HYATT is America's *largest, oldest* and *most experienced* builder of railroad roller bearings. And in 1956, *new* contributions to railroad prosperity will make HYATT more than ever *the FIRST name in the field!*

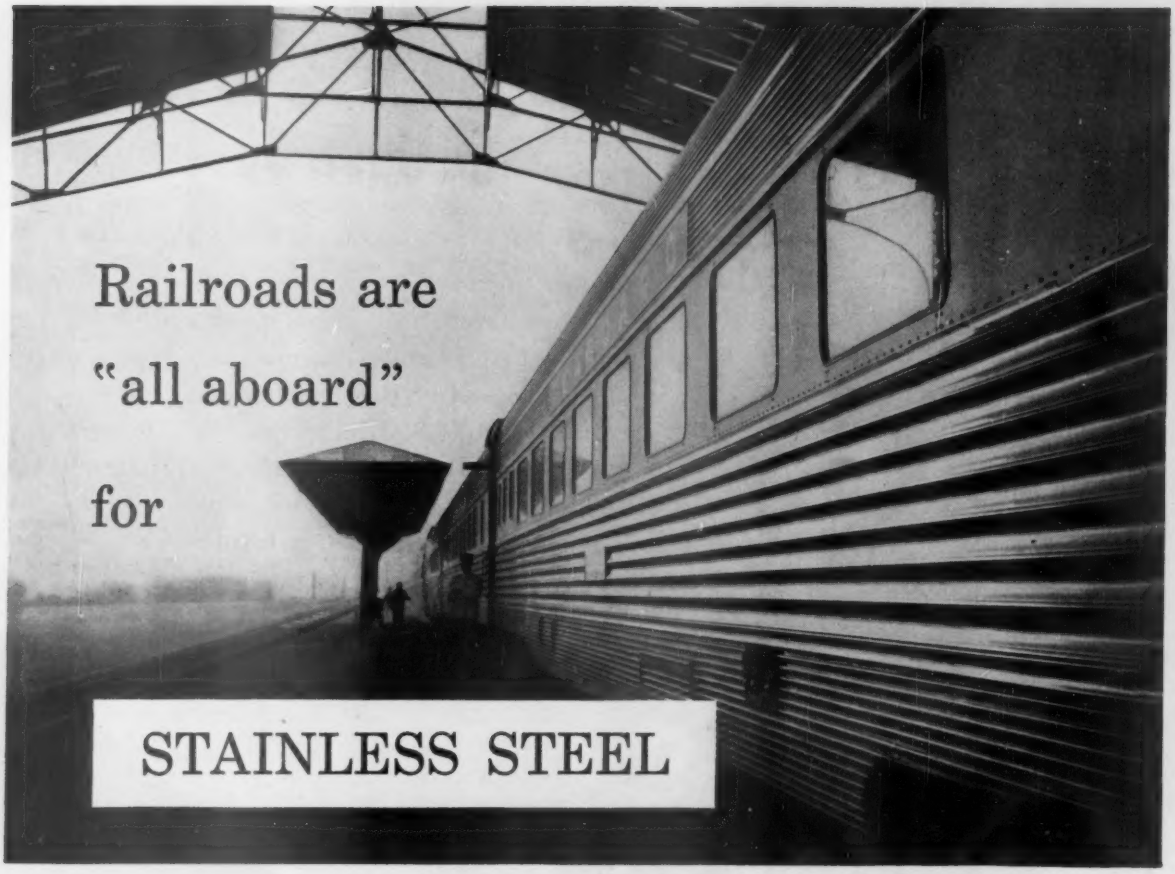
GM GENERAL MOTORS

HYATT

ROLLER BEARING JOURNAL BOXES

RUNNING MATE OF FASTER FREIGHT

HYATT BEARINGS DIVISION • GENERAL MOTORS CORPORATION • HARRISON, N. J.



That's because it's good, practical business sense.

A little stainless goes a long way. You can meet both structural and decorative requirements in a single member. And while reducing weight, you don't reduce strength or safety.

Stainless steel is virtually indestructible. It resists attack by dirt, fumes, water, weather or cleaning compounds...an important thing to remember for protecting those hard-to-reach sections within the structure. And beauty? Stainless steel will keep its luster for a lifetime and longer.

These are some of the reasons why stainless helps streamline the railroad industry for greater beauty and safety, while at the same time improving efficiency and operations through lower maintenance and repairs. You'll get all these advantages too when you get aboard the trend.

For complete information, consult your supplier.

VANADIUM CORPORATION OF AMERICA

420 Lexington Ave., New York 17, N. Y.

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VANCORAM

Producers of alloys, metals and chemicals

MAKE IT BETTER...MAKE IT STAINLESS

TANK CARS made of stainless steel add years to equipment... guard against the corrosive bite of chemical products.

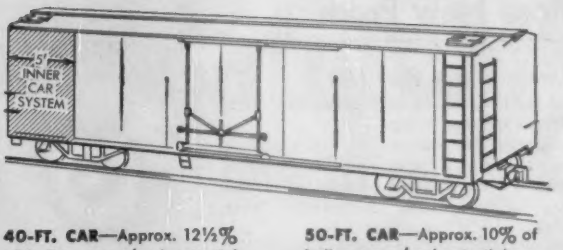
FROM DAIRY TO DOORSTEP, stainless steel keeps milk and milk products free from the danger of contamination.

SPOTLESS GALLEY CARS made of stainless steel save time and labor in cleaning, facilitate quick, sanitary servings.

you are

losing

10-12½% of lading space with inner-car mounted refrigerator systems

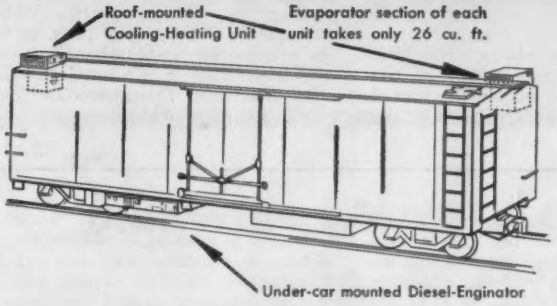


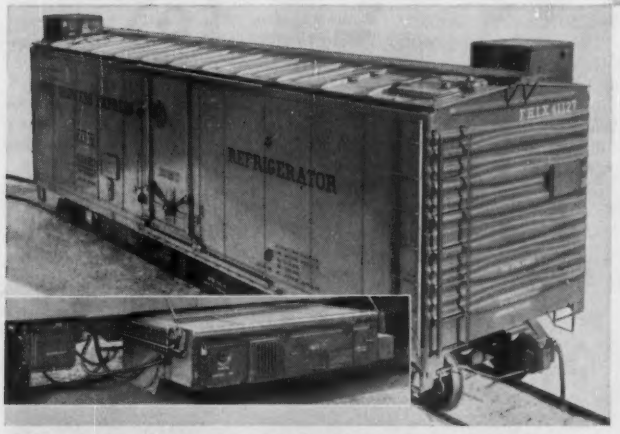
40-FT. CAR—Approx. 12½% of lading space (and potential operating revenue) sacrificed to inner-car systems.

50-FT. CAR—Approx. 10% of lading space (and potential operating revenue) sacrificed to inner-car systems.

save this valuable lading space and earn 10-12½% more revenue with...

WAUKESHA diesel-icer SYSTEM


Roof-mounted Cooling-Heating Unit
Evaporator section of each unit takes only 26 cu. ft.
Under-car mounted Diesel-Enginator



The Diesel-Icer System is a 20-KW Diesel Enginator (shown rolled out for servicing) and two motor-driven Cooling-Heating Units. Only one Cooling-Heating Unit required in 35° cars. Send for Bulletin 1667.

You get 11 car capacity with only 10 cars

The Waukesha Diesel-Icer Mechanical Refrigeration System provides practically the full inside cubic capacity of the car for revenue-producing lading. Applicable to new cars, or to existing ice-cooled cars without modification of the car structure—ice bunkers may be removed. The increased operating revenue possible with the Waukesha Diesel-Icer System, in space-saving alone, will liquidate the capital investment in the system.

295

RAILWAY DIVISION

WAUKESHA MOTOR COMPANY, WAUKESHA, WISCONSIN

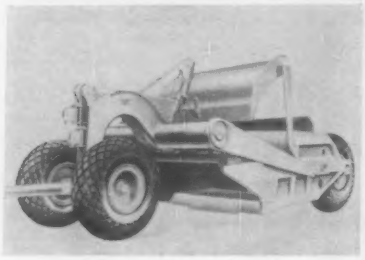
Largest Builders of mobile engine-driven Refrigeration and Generator Equipment

More New Products

(Continued from page 118)

provided which is said to assure complete bowl emptying.

Among the features of this machine are adjustable ejector-guide rollers, protected cables and straddle-mounted rear wheels with adjustable axle height. It is reported that the adjustable axle height will permit the cutting edge to be leveled when the rear tires are of different diameters. The cutting edge of the new scraper is "Hi-Electro" hardened and reversible. A large push block has been provided to improve pusher contact. The new machine has a load capacity of 55,000 lb; overall length of 38 ft; width, 11 ft 9 in.; height with blade on the ground, 11 ft 1½ in.; and wheelbase, 23 ft 1½ in. *Caterpillar Tractor Company, Peoria, Ill.* •



"Airslide" Unloader

Development of a new device aimed at increasing the rail distribution of bulk granular materials has been announced by General American Transportation Corporation.

Built for use with General American's "Airslide" car, the new device permits quick transfer of materials from cars to special trucks for delivery to off-track plants. The unit attaches to discharge outlets of the "Airslide" car, and material is moved by an air pressure system into the trucks. The device is mounted on pneumatic tired wheels and is said to be easily maneuverable by one man.

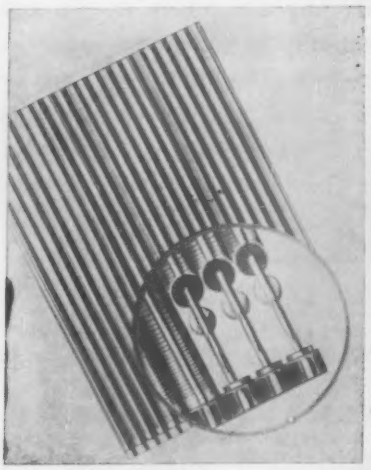
Manufactured by the Fuller Company, a General American subsidiary, the new transfer unit has been tested with good results by the baking industry for bulk shipment of flour. Savings to off-line bakeries include elimination of the cost of bags, as well as a reduction in flour-handling costs and a decrease in product loss.—*General American Transportation Corp., Field Building, Chicago* •

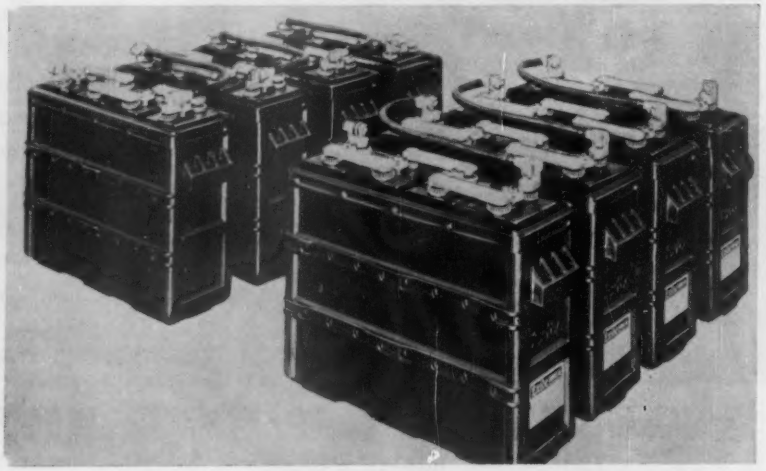
Diesel Starting Batteries

The tubing and tube sealers which encase the active material and grid spines of the positive plates of Exide-Ironclad diesel starting batteries are now made of polyethylene. This plastic replaces the rubber formerly used, and the change was made to lengthen battery life and increase capacity, according to the manufacturer. The change was made after years of research and field testing. In 1953 polyethylene became standard in Exide industrial truck batteries, and in 1954 its use was extended to railroad air conditioning and car lighting service.

In diesel starting service a 20 per cent increase in capacity has been attained with no increase in overall space requirements. The finely slotted polyethylene tubes keep the active material in contact with the grid spines and permit it to be freely penetrated by the battery electrolyte. Tube sealers attached to bottom of tubes seal in the active material.

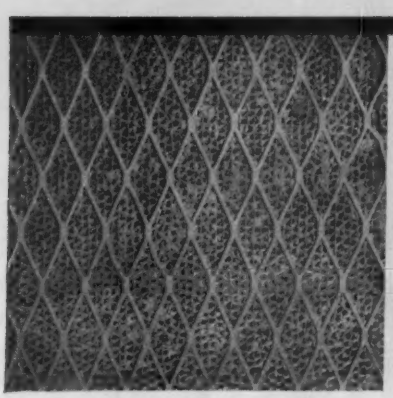
Polyethylene is said to withstand a variety of working conditions and yet retain its elasticity and original slot dimensions. Nascent oxygen released during charging eroded the slots in the rubber tubes but does not attack polyethylene. The plastic is not subject to the uncertainties of foreign markets experienced with rubber. There can be very precise control of its physical and chemical properties. *Exide-Industrial Division, Electric Storage Battery Company, Box 8109, Philadelphia 1* •



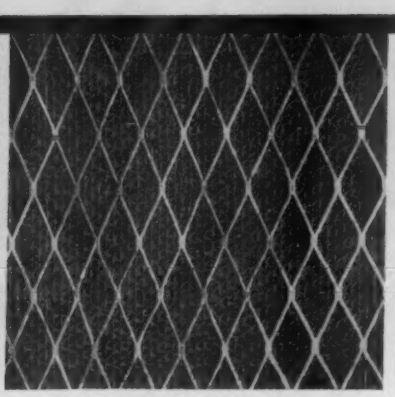


Mobil Air Filter Saturant*

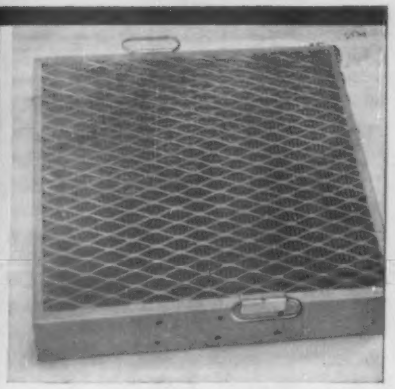
gives you top performance like this . . .



EXCEPTIONALLY HEAVY DIRT LOADS can be held by locomotive car body filters. Mobil Air Filter Saturant keeps filter surface oil-wet, ready to collect even more dirt.

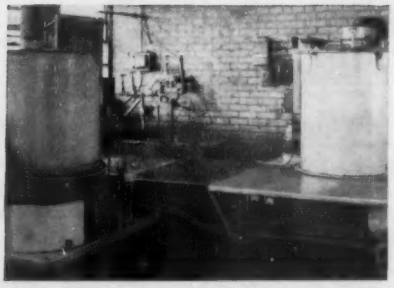


DIRT DOESN'T PASS! Note oil-wet, engine-room side of same filter. Gel-like structure prevents migration or drip. And, the proof—

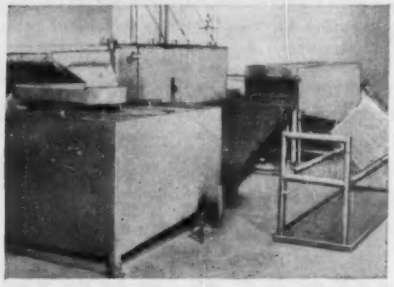


ENGINE INTAKE FILTER STAYS CLEAN!

plus—the Easiest, Lowest-Cost Handling in the Filter House!



APPROVED by all major manufacturers of filter-processing equipment.



CHECK THESE SPECIAL ADVANTAGES:

- Low temperature application provides for big steam savings!
- Use only the amounts needed for your dust conditions. Applications are easily controlled! Does not hang on frames!
- No odors to worry about in the filter house! No odors to worry about in passenger cars!
- No wash-resistant thickeners. Dirty filters clean easier!
- Good water separation characteristics prevent machine trouble!

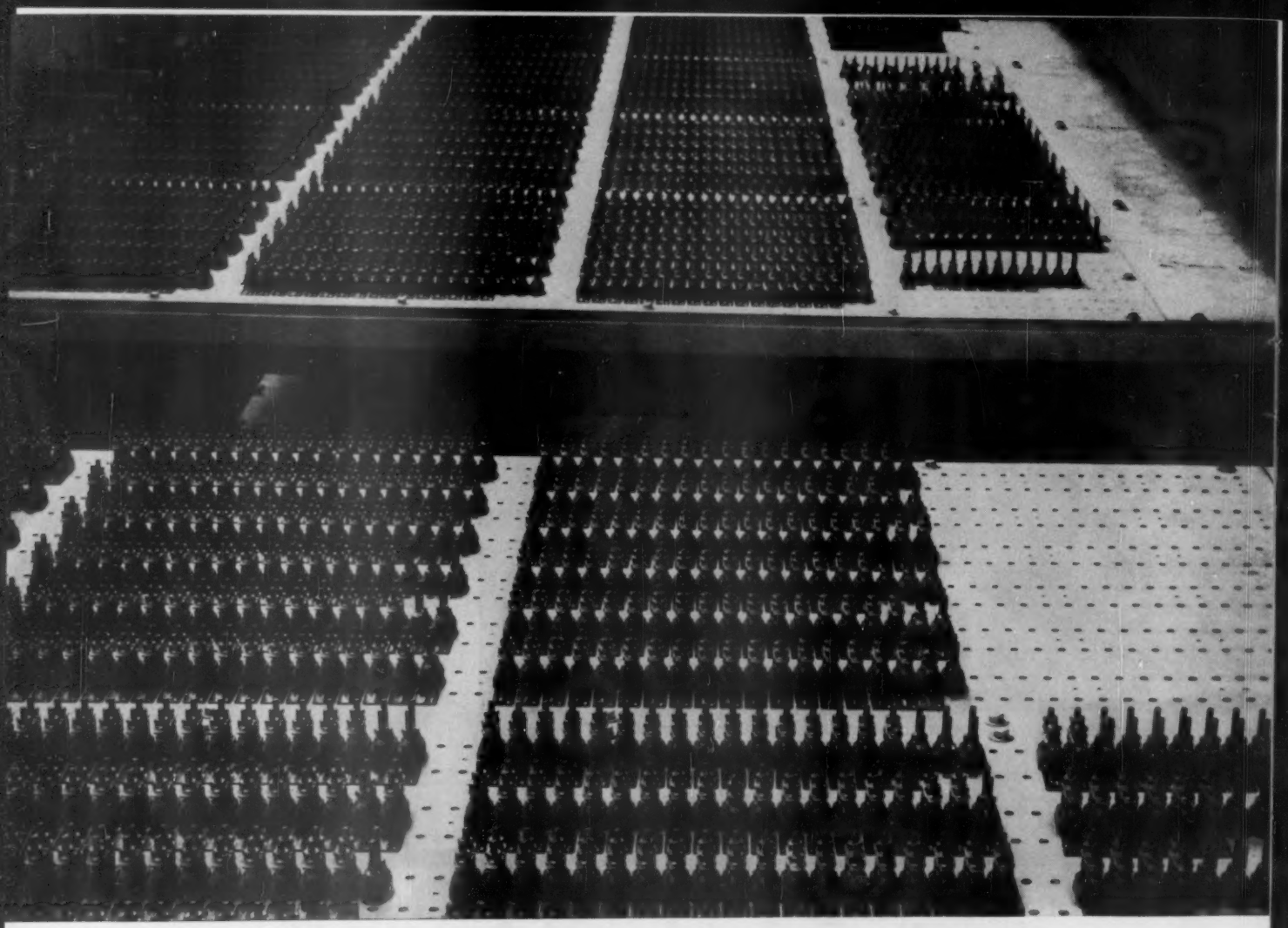
Railroad Lubricants

SOCONY MOBIL OIL COMPANY, INC., and Affiliates:
MAGNOLIA PETROLEUM CO., GENERAL PETROLEUM CORP.

RAILROAD DIVISION

26 Broadway, New York 4, N. Y.
59 East Van Buren Street, Chicago 5, Illinois

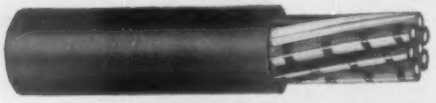
*Patent applied for.



Not soldiers on parade! Tip the page sideways for a familiar view. It's a cable terminal board wired with Okonite signal cable—a rugged heat, moisture and weather-resistant cable used by more than 100 Class 1 railroads.

on guard against signal failures in St. Louis

Any way you look at it, it's a good investment to select Okonite cable for your signal, power and control circuits. Installations like this in Tower #1 of the Terminal Railroad Association of St. Louis have established performance records which provide proof of Okonite cable's reliability and long service life.



Okonite signal cable.

The durability of Okonite signal cable is the result of:

1. **Manufacture by the strip-insulating process. This assures a full, uniform wall of insulation free from "thin spots" that lead to premature failure.**
2. **Vulcanization under pressure in a metal mold. This mold permits a thorough, uniform curing of every foot of cable and makes a tough, dense insulation with better physical and electrical characteristics than can be produced by any other method.**
3. **Testing every foot of cable by applying the severest series of factory electrical tests in the industry.**

Invest for the safety of your system—specify Okonite cable. For detailed information about Okonite cables for railroad use, write for Bulletin RA-1078. Address: The Okonite Company, Passaic, New Jersey.

OKONITE OKONITE SINCE 1878 ***insulated cables***

3132

Mission for 1956

"I'm vice-president of traffic we're *not* handling." That is how one of the country's most alert and progressive railroad traffic chiefs describes his job.

If the year just under way can be characterized with a single sweep, it is this: railroaders in 1956 will concern themselves largely with the traffic they (all of them) are not handling.

There is nothing novel, of course, about railroad management's beating the bushes for traffic. The distinction between the situation of the railroads as it existed up to 30 years ago and as it is today does not lie in the field of management's attitude toward the public. Early in this century, the service, salesmanship, and administration of top railroad organizations — like the Harriman, Vanderbilt, Hill and Pennsylvania lines—were the envy of the business world and a frequent subject of favorable discussion in books on management. Reputations of this caliber were not gained by the often alleged but seldom exemplified attitude of the "public be damned."

Once rate wars and territorial "grabs" were behind them, the railroads developed a fine *esprit* —a "holding oneself out to serve." As public "demand" changed railroads expanded and improved. The industry used expressions like "handling the business"; "moving what is offered"; "satisfying the public." For this kind of business task, the best organization was military and, in truth, the best roads of the day were run much like an army. The most valuable qualities in a railroad man were carefulness, persistence, and loyalty. The prime ends were reliability and safety.

Today the public "offers" nothing. The railroad has lost its right to serve. It has nothing upon which it can lay an effective claim. Railroad management now finds itself in a world where good operations are taken for granted, and where the prime task is to fight for every pound of profitable traffic.

At a recent meeting of the informal Railroad Human Relations Group, personnel officers from at least 30 roads described their most pressing problems as "finding the right men to fill the important jobs ahead," and "training men to meet *today's* job requirements."

Why is organization and personnel a big problem? The answer does not lie mainly in the caliber of railroad men—however baneful the effect of promotion-by-seniority. The answer, these personnel men agree, is that the whole mission of the railroader has changed. In monopoly days his main job was to be a reliable servant of the public and a cost-conscious steward of valuable property. Today his main job is to find ways of getting and holding business. The reason the personnel problem on the railroads is so acute is because, almost overnight, the railroads must build flexible, creative, quick-thinking task forces geared to the marketing function.

Yesterday, the steady gait was most prized; today it is fast foot-work. Yesterday the prime job of a railroad officer was to forge an orderly machine, of many men, out of what was practically industrial chaos. Today his job is to merchandise.

Fortunately, this fundamental transformation is taking place at a time of unprecedented mass prosperity, with the country's output and consumption at an all-time record. It is not a feverish, unwholesome "boom." For the first time since World War II, business activity is operating on normal incentives and not on the forced draft of war, hasty defense measures, or postwar rehabilitation. Whatever activity results from defense build-up is long-term, and likely to last into the foreseeable future.

Most railroads' financial houses are in good order, with low debt-to-earnings ratios. The leverage on earnings of cost-cutting mechanization is proving high. Efficiency factors were never better.

Yet, in neither traffic nor earnings do the railroads qualify as a growth industry. Among the 30 biggest earners of non-financial corporations in the U.S. for the first half of 1955, there were only three railroads, and they ranked 24th to 26th. Most businesses are meeting the challenge of monetary inflation and the need for capital expansion through a combination of greater productive efficiency and increased patronage. The railroads have met these challenges with cost-cutting investment up to the limit of their ability. But this managerial enterprise has not been accompanied by a growth in patronage comparable to most other businesses.

An admonition put forth by President Budd of the Great Northern near the close of 1954 merits repeating. He urged railroad men to give "diligent, searching thought to the word 'survival'" for their industry.

The biggest change in 1956, we predict, will be in intensified activity of railroad management —"in charge of traffic we're not now handling."

Railway Outlook

Here's What Railroads Will Spend in 1956

. . . FOR ADDITIONS AND BETTERMENTS, INCLUDING EQUIPMENT

By J. W. MILLIKEN
Associate Editor

It is hard to see how capital expenditures of the railroads in 1956 can fail to climb well over the $1 billion mark. If better than "expected" delivery of freight cars is realized the 1956 total could exceed the record $1,414 million for comparable outlays made in 1951.

It is estimated that capital expenditures for the first quarter of this year, according to reports of 124 carriers to the Interstate Commerce Commission, will be about $324.3 million. Of this amount, more than $250 million is allocated for equipment—freight cars particularly. Assuming that only about half of the freight cars on order at the end of 1955 will be delivered during '56, capital expenditures for this class of equipment alone will go over the half-million dollar mark. And it looks as if at least $200 million will be spent for new locomotives, to which will be added another several hundred million for fixed property.

Bases for some of these statements are reports from the carriers themselves. Thirty-eight roads, for example, expect 1956 deliveries of new freight cars, ordered in 1955, to amount to almost $300 million. Nevertheless, many roads realize that some of their 1955 car orders still will be backlog material when 1957's New Year's day rolls around.

Capital expenditures alone of course will not put the railroads in position to handle comfortably the traffic they obviously expect this year. Maintenance programs are up substantially from 1955 levels. Especially is this true with respect to freight car repair. The number of freight cars being scheduled to receive heavy repairs is large. If the results of our sample are representative, about 14% of all freight cars owned by U. S. Class I roads will be rebuilt or given other heavy or general repairs during the year.

By individual railroads details of capital outlay and maintenance programs of many carriers are listed below as specially prepared for *Railway Age*.

Alton & Southern

Motive power to be acquired during year will cost $160,000.

New **rail** to be laid, $40,000.

Ann Arbor

Has on order for 1956 or 1957 delivery 400 **freight cars,** estimated cost $2,873,500.

The **rail** laying program is estimated to cost about $196,000.

Atchison, Topeka & Santa Fe

Will spend $102 million for expansion and improvement in 1956. Included in these expenditures will be $13 million for additional diesel ***locomotives,*** *$21 million for 2,450* ***freight cars*** *and $17 million for various major fixed* ***property*** *improvements.*

A&WP-W of Ala-Georgia

The A&WP and the WofA have ordered for 1956 delivery 100 new **box cars** and 50 rebuilt gondolas. They are converting 100 obsolete box cars to pulpwood flats. The Georgia is acquiring 100 second-hand pulpwood flats.

Atlantic Coast Line

Will spend $4.7 million for 539 **freight cars** and three lightweight **passenger** train cars. About $2.2 million will be spent for heavy repairs to passenger cars, while $4.6 million will go for similar repairs to freight cars.

About $442,000 is to be spent for new or modernized **freight and passenger stations** and office buildings.

Rail laid during the year will total 27,100 gross tons.

Signal modernization and additional signaling will take about $1.9 million; about $425,000 for expansion of company telephone plant and additions to the Teletype network.

Will rent from IBM tape-to-card and other equipment, to be installed in 10 yard offices, for handling advance train consists, etc.

Bangor & Aroostook

Major capital expenditure during the year will be $1,500,000 for 180 pulpwood ***freight cars.*** *Sixty-five of these cars are side dump and 115 are equipped with end racks.*

Canadian National

Expects delivery during '56 of about 4,850 **freight cars,** estimated cost $42 million. Heavy repairs will be given to 8,100 freight cars and 750 passenger cars.

Will take delivery on 143 **diesel** switchers and road switchers during the year.

Central Vermont

Rail *to be laid consists of 20 track miles of new 115-lb steel and 3 miles of 100-lb.*

Expects to install a remote control ***interlocking*** *at St. Albans, Vt.*

Chesapeake & Ohio

Cost of 2,900 new **hopper cars** to be delivered in 1956 is estimated at $21.8 million. For heavy program repairs to 3,850 cars, $14 million will be spent.

Diesel **locomotives** procured during year will cost about $22.8 million for 130 units.

Fixed property expenditures will be approximately $14.8 million, viz.: bulk commodities pier, Newport News, Va., $3.6 million (total cost will be

$8.4 million); coal pier additions, Newport News, $2.6 million (total cost will be $3.2 million); ferry slip Ludington, Mich., $1,000,000; manifest yard, Russell, Ky., $4 million; additional yards, tracks and other facilities, $3.6 million.

Expenditures for **rail,** tie and ballast renewal will amount to $8 million.

Capital expenditures for **signaling and communications** set at about $2.4 million.

Univac **electronic computer** will go to work for C&O early in year.

Chicago, Burlington & Quincy

*Will acquire 1,620 new **freight cars,** at a cost of about $13.5 million. Expenditures for heavy repairs to 2,850 freight- and 45 passenger-cars will be about $3,015,000.*

*Presently contemplating building two new **freighthouses** as well as completing work on the hump yard at Morton Park, Ill.*

*May complete installing **CTC** between Quincy, Ill., Hannibal, Mo., and Macon.*

Clinchfield

Freight cars to be purchased this year, 60, for which $500,000 will be spent. About 800 freight cars will receive heavy repairs and/or general overhaul.

For 10 units of maintenance of way **work equipment,** approximately $54,000 will be spent.

Expenditures for laying 31 miles of new 132-lb **rail** will be about $1,197,500. Another $481,000 is estimated cost of placing 115-lb relay rail on 25 miles of yard, passing and branch line tracks.

Nine **radio** wayside base stations will be placed in operation for train to wayside and end-to-end train communication over entire system. Cost about $138,900.

Delaware, Lackawanna & Western

Cost of 1,200 **freight cars** to be ordered will be about $9,890,000. Will rebuild 17 cabooses at a cost of about $115,000.

Expenditures for 73 **trailers** to be used "piggyback," $396,450.

Reconstruction of **bridges,** etc., damaged in 1955 floods will require expenditures of $1 million.

Signals and interlockers to be installed will cost $300,000.

Will rent an IBM 650 electronic **data processing machine.**

Denver & Rio Grande Western

Has ordered for 1956 delivery 450 **freight cars.** Heavy repairs will be given 300 box cars and 300 gondolas.

Has ordered 12 **diesel** road-switchers for delivery in '56.

Fixed property: building new enginehouse at Roper, Utah; will spend $167,000 for new industrial trackage; cost of relocating car shop from Salt Lake City to Roper, $170,000; annual bridge and culvert program $99,000; two line changes, $182,400.

New **rail** program calls for expenditure of $1,906,000 and includes: 7.47 miles of 106-lb rail; 38.85 miles of 119-lb rail, of which 22 miles will be continuous welded.

Expects to spend $82,770 to provide automatic control of **retarders** in east yard at Grand Junction, Colo. Cost of moving a CTC control machine from Sulphur to Denver estimated at $103,700.

Detroit & Toledo Shore Line

*Proposes to acquire 100 new **box cars.** Will construct new **office building** at Lang, Ohio. Expects to lay 1,000 tons new **rails.***

Duluth, South Shore & Atlantic

Expects to order 100 **box cars** and six "Airslide" covered hoppers. Will give heavy repairs to 30 ore cars and 40 hopper cars.

Will lay 5.5 mi of new **rail.**

Erie

Has earmarked more than $24 million for major capital improvements and maintenance programs during 1956.

About $14.6 million will be spent for 1,550 **box cars.** Heavy car repairs costing about $1,250,000 will be given to 1,138 box cars and 94 passenger cars.

Will lease 50 **trailers** for piggyback service.

New motive power will include six **diesel switchers,** cost $1 million.

To be completed during the year is a new **car shop** at Meadville, Pa., cost $2 million. Facilities enabling Erie to use Lackawanna passenger station at Hoboken, N. J., will cost $1 million. Other projects total about $625 thousand.

Rail laying during the year will cost Erie $2.4 million, for 80 miles of new and 50 miles of relay rail.

Several automatic crossing gate installations costing about $300,000 are main items in the **signaling** budget.

In the fall Erie will take delivery of two IBM 650 electronic data processing machines.

Florida East Coast

*Will order 35 **hopper cars** at an estimated cost of $283,500. Heavy repairs to system freight and passenger cars are budgeted for $719,000.*

*Capital expenditures for **roadway** and structures will be $750,000.*

Grand Trunk Western

Will give heavy repairs to 1,400 **freight cars** during 1956.

Capital expenditures of $2.25 million will be made for expansion and improvement of two **yards.**

Will place relay **rail** on 51 miles of track at a cost of $571,370.

Plans to complete installation of **CTC** on 52 miles of road between Flint, Mich., and Port Huron at a cost of about $664,000.

Great Northern

*Capital program calls for $15 million of new equipment, including $3.6 million for **diesels,** $9.6 million for **freight cars** and $1.8 million for other equipment.*

*Capital budget for **fixed property** set at $15 million, $6 million of which is for new retarder yard at Minot, N. D., which will go into service this year.*

***Rail** laying program—35,000 net tons new rail.*

*Expects delivery of Univac electronic **data processing** system about mid-year.*

Illinois Central

Expects to build in its own shops 2,000 **box cars,** at a cost of about $13.5 million. Extensive repairs to 14,000 freight cars call for outlays totaling $6,239,000.

Expenditures of $11.9 million will be made for 70 **diesels,** to be received during 1956.

Shop **machinery** to be purchased during the year will cost the road about $638,000.

Major items in **fixed property** improvement include: $1,657,000 for bridge work; $605,000 for extending passing sidings; $375,000 for diesel repair facilities at Markham and Hawthorne yards in Chicago; Chicago suburban station improvements $93,000; and $580,000 for changes in tracks.

New **rail,** 150 track miles will be laid, at a cost of $6,215,000.

Illinois Terminal

Contemplates laying 12 miles of new 90-lb **rail.**

Under consideration are additional **shop** facilities and some enlarging and improving of **yards.**

Kansas, Oklahoma & Gulf

*Purchasing five **covered hoppers** for delivery expected in July.*

Will lay 10 track miles new 115-lb ***rail*** *during '56.*

Lehigh & Hudson River

Expects to lay 520 tons of new **rail** at a cost of approximately $82,000.

Lehigh & New England

Will take delivery of 300 **box cars** about the first of April. Regularly gives three hoppers and three box cars heavy repairs each week in year.

Will lay 6.8 miles of 115-lb **rail** late in the year.

Long Island

Expect remaining 99 **passenger cars** from 1955 orders to be delivered in '56. Also plan to rehabilitate 120 passenger cars.

Main additions to **fixed property** will be a $900,000 new passenger car inspection facility.

Will lay 3,000 tons of new **rail.**

In **signaling** and communications field: $275,000 for highway grade crossing protection; $250,000 for reverse signaling; and $175,000 for miscellaneous changes and additions.

Louisville & Nashville

Has ordered for delivery in 1956 1,000 ***freight cars.***

Under active consideration is the purchase of enough new ***diesels*** *to completely dieselize the railroad by the end of the year.*

Under way is $6 million project to expand and modernize Hills Park ***yard*** *at Atlanta (joint with NC&StL). Being planned is modernized and expanded Boyles yard at Birmingham, Ala.*

Has programmed to lay 35,000 net tons of new 132-lb ***rail*** *at a cost of $5.6 million.*

More ***CTC*** *and end-to-end train communications are scheduled for 1956.*

Missouri-Kansas-Texas

Now on order, 550 **box cars,** estimated cost $4.5 million. Contemplate building 25 flats at Denison shops, cost about $200,000.

Will order **tractors and trailers** for "piggyback," estimated expenditure $350,000.

Total capital and operating cost of about $1,185,000 will be incurred in laying 40 miles of new 112- and 115-lb **rail.**

Signaling and communications project, about $250 thousand, including 300 miles carrier circuits, Teletype equipment, two-way radio on engines and cabooses, and automatic block signals on 20 miles main line.

Missouri Pacific

Freight cars *to be acquired during 1956 number 2,000, while 6 new* ***passenger cars*** *will be constructed. Heavy repairs will be given 6,000 freight cars.*

Rail *to be laid includes 146 track miles of new steel and 76 track miles of relay rail.*

CTC *will be installed on 55 miles of line.*

Nashville, Chattanooga & St. Louis

General overhaul repairs will be given to about 975 **freight cars** and eight **passenger cars.**

Construction now under way on new **retarder yard** (joint with L&N) at Atlanta; a four mile industrial spur at Chattanooga, cost about $525,000; relocation of 2.5 miles of double-track main line, freight and passenger stations, as well as freight yard facilities, at Chattanooga, cost $5 million.

Will lay 8,050 net tons of new **rail** in '56, as well as 2,300 net tons of relay rail.

New Jersey, Indiana & Illinois

Has earmarked $1,729,100 for 200 new ***freight cars,*** *delivery in either 1956 or '57.*

New York Central

Has authorized expenditures of $141,530,000 for purchase of 17,750 **freight cars.** All cars have been ordered, with deliveries scheduled to start early this year. Expects to repair 14,058 freight cars, at an estimated cost of $13,986,154.

Has ordered nine **passenger cars,** cost estimated $606,000. With expenditure of $2,251,057 expects to give repairs to 631 passenger cars.

Expects delivery in 1956 of 51 **diesel** locomotive units at an expenditure of $9,081,500.

Plans call for laying of 400 track miles of new and relayer **rail** at an expenditure of $7,494,236.

Expects to complete one **CTC** installation, now under way, and undertake four other such projects. Total expenditure involved is about $17,147,246.

Will progress mechanized **car reporting system.**

Norfolk & Western

Estimated value of new ***freight and passenger cars*** *to be acquired is $38,865,000. Car repair program will cost about $4,488,000.*

Expenditures for new ***locomotives*** *will be about $4.6 million.*

Additions to ***fixed property*** *will cost about $7,000,000.*

Estimated expenditure for laying 35,000 tons new ***rail*** *is $3.7 million.*

Another $390,000 will be spent for ***signaling*** *and communications improvements.*

Northern Pacific

Freight cars, 1,300 ordered for 1956 delivery at a cost of $11,793,000. Passenger cars (15) will cost $1.8 million. Another $2,118,000 will be spent for heavy repairs to 2,800 freight cars.

About $350,000 is cost of 75 new **trailers** for use in piggyback.

Diesels to be installed in '56 will cost $13 million, for 79 units.

Additions to **fixed property**—total expenditures for major projects, $2,215,000. Main projects: new diesel shop, Livingston, Mont., $758,000; new interchange track, Seattle, $237,000; new car repair facilities, Tacoma, $187,000; new yard tracks, Parkwater, Wash., and Missoula, Mont., $298,000; at Wheeler, Mont., industrial spur, $168,000; $147,000, four new service buildings.

Expenditures for relaying **rail,** plus cost of ballast, will be about $6,579,000. Rail to be laid on 70 miles main line and 82 miles of branches.

Major expenditures for **signaling:** $116,000 to modernize semaphore signals; modern interlocking plant at Seattle, $79,000; **CTC,** Bozeman, Mont.—Logan, $502,000.

In **communications:** $45,000, additional radio facilities; $264,000 to expand carrier circuits.

Office machines: an IBM 650 electronic data processing machine, rental of $4,075 monthly; IBM computer, rental $21,800 monthly.

Pittsburgh & West Virginia

Expects to purchase 250 **freight cars** at a cost of $2,193,000. Heavy repairs will be given 90 hopper cars, cost about $180,000.

Plans to order one new 2,000-hp **diesel.**

Also called for, six miles of 115-lb **rail.**

Rutland

Freight cars *on order for 1956 delivery include: 15 covered hoppers; 200 PS-1 box cars.*

St. Louis-San Francisco

Capital program for 1956 estimated at $29 million, probably will exceed that of any previous year since reorganization.

Equipment includes 2,000 **freight cars** to be delivered in '56. Heavy repairs will be given 800 freight cars.

Roadway program includes $9.5 million for a new hump yard at Cleveville, Tenn.; $5.5 million for hump yard at Tulsa, Okla.; $1.9 million for

modernization and expansion of yards at Kansas City, Mo., and Rosedale, Kan.; $1.5 million for a new freight-house at Memphis, Tenn.

New rail to be laid includes 75 miles of 132-lb steel and 40 miles of 115-lb section.

Seaboard Air Line

Has scheduled 300 ***gondolas*** *for repairs, cost $900,000.*

Expects to spend about $3 million for laying 90 track miles of new ***rail.***

Soo Line

Has on order 1,684 **freight cars,** including 15 covered hoppers equipped for bulk flour shipments and 125 box cars with damage-free loading devices.

Will acquire five 1,750-hp **diesel** road switchers.

Will spend about $1,825,000 to lay 56 miles of new **rail.**

Southern Pacific

Expects about 3,600 of **freight cars** on order to be delivered, cost about $32.5 million. Repairs to system freight cars, including heavy repairs for 19,500 cars, will cost $33.5 million.

Will acquire 197 "piggyback" **trailers** at an expense of $1,221,000.

Scheduled for delivery in '56 are 171 diesel **locomotive** units, for which an estimated $31.3 million will be spent.

Expects to complete gravity switching **yard** at Eugene, Ore., at cost of $1,170,000.

Rail laying program: 395 track miles new rail and 244 miles relay rail at a gross expenditure of $18 million.

Largest **signal** and communication project: complete installing **CTC** between Yuma, Ariz., and Colton, Cal. Gross investment cost of this program in 1956, about $4.7 million.

Spokane, Portland & Seattle

Plans to acquire 500 ***box cars*** *and 10 new cabooses, cost $4,710,000.*

Buying four 1,000 ***diesel switchers,*** *$480,000.*

Major ***fixed property*** *improvements: bridge over Columbia river, $1,614,000; yard facilities, Wishram, $1,450,000; main line bank protection, $1,150,000; relocate 14 miles main line, $2.4 million.*

Cost of 13.2 track miles of new rail on main line, plus secondary track improvements and additions will total $1,104,000.

Texas & Pacific

Ordering 197 new **freight cars** from its Marshall shops. Will rebuild 30 outfit cars for maintenance of way department use; general repairs will be given to 947 freight cars and 49 passenger cars.

Will lay 13 track miles new 132-lb **rail** and 35 miles new 115-lb steel. Also will lay 20 miles of 112-lb rail, cropped and welded into 146-ft lengths, as well as 72 miles of 131-lb rail, cropped and welded into 143-ft lengths.

Plans to install automatic color light block **signals** from Texmo Jct., La., to Lucas, 112 miles.

Union Pacific

On order, undelivered at the beginning of the year were about 3,950 **freight cars,** value approximately $32.7 million. General repairs will be given about 3,260 freight cars, at an estimated expenditure of $4.6 million.

Locomotives on order include 13 diesel switchers and 15 8,500-hp gas turbine-electrics, total cost about $14.7 million.

Under construction are new diesel servicing facilities and **yard** expansion program at Council Bluffs, Iowa, which will cost about $2.9 million.

New **rail** program for 250 miles of 133-lb rail, at an expenditure of about $11.3 million.

Already under way are two programs involving 272 miles of **CTC** and line changes on 18 miles of track. Total cost of the two projects is about $10.2 million.

Will install an IBM 650 electronic data processing machine.

Wabash

Has on order for 1956 and 1957 delivery 2,647 **freight cars,** estimated cost, $22,890,000. Heavy repairs to 2,228 freight cars and 42 passenger cars will require expenditures of $2,394,520. (This includes work on cars of Ann Arbor and New Jersey, Indiana & Illinois.) Rebuilding 10 passenger cars at a cost of $402,000.

Expects to acquire, for $237,000, 60 **trailers** for "piggyback" service.

Has on order nine **diesels,** cost $2,451,000.

Fixed property improvements: enlarging freight **yard,** $3,680,000; enlarge and modernize freight stations and terminals, $4,554,000; shop remodeling, $335,000.

Will install 30 miles of **CTC** at a cost of $442,000.

Western Maryland

Will acquire 800 ***hoppers*** *and 75* ***flat cars;*** *1,013 hoppers to be rebuilt or given heavy repairs.*

On order are two road switching ***diesel locomotives;*** *under consideration are orders for three more diesel switchers.*

Already under way are two projects, total estimated cost $5.75 million, for ***fixed property*** *improvements and additions. Additional capacity is being built into grain elevators at Port Covington, and piers are being improved.*

About 7,000 tons of new ***rail*** *will be laid in 1956.*

Program for improved ***signaling*** *includes respacing signals on 77 miles between Hagerstown, Md., and Cumberland.*

EXPECTED EQUIPMENT PURCHASES IN 1956*

	No.	Value (est., 000)
Freight cars	46,633	342,395
Passenger cars	167	10,110
Locomotives	648	99,084
Piggyback trailers	761	3,980
Total		$455,569

* For 35 roads

OTHER PROJECTS FOR MAJOR EXPENDITURES

	No. Roads	Estimated Cost* (000)
Rail laying projects†	37	68,706
Signaling and communications	32	42,890
Fixed property	17	13,982
Total		$125,578

* Includes both operating and capital charges.
† Also reported:
357 mi new and relay rail, no cost given; 86,950 tons new and relay rail, no cost given.

Railway Outlook

MUCH IS NEW IN . . . Signaling for 1956

By JOHN H. DUNN
Signaling and Communications Editor

A lot of automation ideas in railroad signaling are going to pop out in 1956. Signals, switch machines and retarders being installed will look the same as before, but some elements in the wayside housings and in control offices will be radically different. By expert and consistent research in laboratories, in factories, and in the field, manufacturers are bringing into signaling many electronic devices, such as radio, carrier, radar, microwave and tuned coils. Multichannel, high-speed code, Syncroscan, Identra train identification, and automatic control are some of these new forms of equipment.

Important objectives of research are: (1) to attain automatic control either in whole or in part; or (2) to consolidate in one office the control of extensive areas or mileages. Railroads which actively cooperate in the further development and extensive use of these new control systems will benefit in numerous ways.

How to Consolidate Interlockings

In the old days the extent of a mechanical interlocking was limited by the length of 1-in. pipe that could be operated by a man pushing and pulling on a lever. Later, the extent of a conventional power interlocking was limited by the cost of wires and cables for numerous control, locking the indication circuits to the most distant switches and signals in the plant limits.

In mechanical, and conventional power interlockings, safety, with respect to position of switches, conflicting routes and track occupancy, was secured by mechanical locking between levers and by electric lever locks. In modern centralized traffic control or all-relay interlockings, the locking can be accomplished at the field locations by interconnection of circuits. Therefore, only "controls" and "indications" are transmitted between the office and the field, and these can be handled on one pair of wires.

Thus, distance limitations have been eliminated by selective coding systems, including electronic coded carrier equipment, by which one pair of line wires will handle any desired number of outgoing controls and incoming indications, without delay. It is now practicable to consolidate in one machine the control of numerous interlockings in an entire terminal area, or spaced along an entire operating division of a railroad. The results are: (1) better coordination of operations, thus saving train time; (2) better utilization of tracks; and (3) a reduction in operating expenses because of fewer levermen.

For example, at New Haven, Conn., the New Haven has completed installation of three new interlockings controlled from one pushbutton, route-control machine which will also control three or four more interlockings within a radius of 20 miles. The Kansas City Terminal recently completed an extensive interlocking including about 90 signals and 73 switches, derails, double slips, and movable-point frogs, all controlled from one push-button route-control machine.

WITH CTC SIGNALING ON BOTH TRACKS BOTH WAYS a fast train crosses over to run around a slower train.

Approaching the problem from a different angle, the Southern Pacific, at an interlocking installed in Houston in 1955, used turn-and-push levers on a panel 28 in. by 64 in. Thirty-two signal levers control 73 signals, and 33 switch levers control switches, crossovers, derails, slip switches or electric locks on hand-throw switches. All indications are on a large illuminated track diagram mounted 6½ ft from the leverman's position at the control panel.

At Reading, Pa., the Reading is now consolidating the control of eight widely scattered interlocking layouts. The Burlington is working on a project that may eventually include all interlockings in the 38-mile Chicago-Aurora terminal area. On another railroad, proposed consolidation of control of six interlockings in a 6-mile terminal area will eliminate 40 towermen's positions.

New Console Type Machine

When the Reading and the Burlington were planning to consolidate controls of several interlockings, they required a new type of control machine by which one man could manipulate all the controls without leaving his chair, rather than have one or perhaps two men work along the length of a conventional interlocking machine. This need brought forth the so-called console-type machine, the first of which was placed in service on the Reading on August 1, 1955. The second will be delivered to the Burlington about February 1, 1956.

Each of these machines has a sloping desk panel, not much larger than the console of a pipe organ. Each of the eight interlockings in the consolidation is controlled by entrance-exit buttons, which are in two sets, each in a vertical row. The right row, for example, has one button to initiate the control of all westward routes entering on a certain track, and the left row has one button for all eastward routes entering on that track. These pairs of rows can be spaced a few inches horizontally,

so the panel for control of an entire interlocking, including numerous switches and crossovers, need be only 6 to 8 in. horizontally.

The rows of route-control, entrance-exit buttons can be so close together because the indications, with respect to position of switches, routes established, and track occupancy, are not on this console panel, but are on a larger illuminated track diagram mounted about 8 ft. away. Thus 8 to 10 sizable interlockings on multiple track territory can be controlled from one of these desk-like console panels.

Selective Automatic Route Controls

The Chicago Transit Authority, in 1954, made the first installation of an electronic tuned coil train identification system for the automatic selective control of a facing-point junction switch in an interlocking. In this system, known as Identra, an inert coil on the head end of the locomotive or leading car inductively couples to a similar wayside coil at identification points. The wayside coil is connected to responsive electronic apparatus that registers the identity of the train with respect to routing to its destination, and controls the switches accordingly. The signal then clears for the train.

In 1955 a proposal was made to apply this train identification system in extensive areas, including numerous sizable interlockings used primarily by trains on through routes. These trains would automatically line up their own routes as they approached each interlocking. The identity of each train, as well as the occupancy of track sections and routes, would be transmitted to a "monitor" control machine for the entire area. Thus one man could effectively have charge of several large and busy interlockings, with a reduction in train delays that are now caused by time required to change routes in manually controlled plants.

This proposed system is now being installed on the Flushing line of the New York subways and will reduce the present ten points (for control of interlocking power switches and signals) to two, and will thereby result in a saving in operating expenses and will reduce train delays. For these same reasons, this system of automatic train identification controls for switches and signals may well be applied in 1956 on some trunk line railroads.

Remote wayside control of operation of a train, the first in the United States, was accomplished on an experimental run by the New Haven December 1 on 7.5 miles of track in electrified territory between New Rochelle, N.Y. and Rye. With no person at the controls on the train, its operation was under control of a leverman at a panel at Larchmont station. By throwing these wayside levers, the train was controlled to move east or west, or to coast.

When the lever was placed in the "stop" position, a service application of the train brakes was made, bringing the train to a stop. These controls were transmitted to the train by inductive type remote control equipment. If conditions ahead were such that the train should not proceed, automatic train control equipment would operate to apply the brakes and stop the train, regardless of controls being sent by the wayside control. The remote wayside controls system could be applied equally well to a multiple-unit, electrically operated car or a diesel locomotive. Furthermore the wayside control systems are sufficiently flexible for application on one or more tracks, and in extended territories.

With improved track and better locomotives, trains are now fewer and are operated at higher average speeds. Accordingly, numerous railroads are recognizing the fact that perhaps these trains can now be operated efficiently on fewer main tracks in some sections of multiple-track territory.

A logical time to change to fewer tracks is when extended mileage of old rail is due for replacement. For example, in November, the Erie completed a changeover from double-track to single-track on 21.2 miles between Aldine, Ind. and Pershing, the capacity to handle about 20 trains daily being secured by installing centralized traffic control on the remaining track.

In the past, some roads have frowned on such projects because of the necessity to reduce train speeds when making diverging moves from single to double track or vice versa. The Erie eliminated this factor by installing equilateral turnouts including No. 24 frogs and 39-ft. curved points. Trains will move through these turnouts on the "high green," at normal speed, which is 60 mph for freights and 70 mph for passenger trains.

The Grand Trunk is now changing from double to single track between Durand, Mich., and Port Huron, 80 miles, and the Wabash is doing likewise on 44 miles between Salisbury, Mo., and WB Junction. A big job of this kind, now in the planning stage, is on 150 miles of the Southern's main line between Atlanta, Ga., and Greenville, S. C. The decision in this instance is based on satisfactory results on a 167-mile project completed in 1954 between Cincinnati and Tateville, Ky., in which the Southern removed alternate 10-mile sections of second track, leaving 10-mile segments with two tracks, with CTC signaling on both tracks as well as on all sections of single track.

A different situation applies on sections of double track where additional capacity is needed, but a third track is not warranted. In 1955 the Chesapeake & Ohio solved this problem on 93 miles between Columbus and Toledo by installing CTC with signals for train movements both ways on each track. Other projects of this nature have been in service for several years on the Santa Fe, Rock Island, North Western, Missouri Pacific and the Frisco. One advantage is that during certain hours, all trains can be operated on one track between any two crossover layouts, perhaps 10 miles, thus allowing on-track power equipment to be operated without interruption, for a full working day.

Four Tracks to Two

The outstanding project of this type, i.e., train operation both ways on each of two tracks, is now under construction on 167 miles of the New York Central between Buffalo and Cleveland. In this territory, two of the existing four tracks are being removed. Capacity to operate 85 or more trains daily on the two tracks is to be secured by more intensive utilization. CTC to be installed will include signals for train movements both ways on each track. Power-operated crossovers, spaced an average of 7.3 miles apart, will divert trains from one track to the other, so that idle sections of track can be used to run fast trains around slower ones.

This NYC project includes a 1955 development known

as Syncroscan, a feature being that information on the control machine, concerning the position of switches, aspects of signals, and location of trains, is given by continuous scanning of field stations, with a maximum delay of four seconds after a change. Controls are set 1½ seconds. Different current frequencies are used, so controls and indications can be transmitted simultaneously.

On extensive mileages of single track, many railroads are replacing conventional automatic block with CTC. For example, the Union Pacific is now making such a change on 264 miles between Pocatello, Ida., and Granger, Wyo., and the Southern Pacific on 114 miles between Thermal, Cal., and Yuma, Ariz., including 16 controlled sidings, each about 9,000 ft long.

On single-track not previously signaled, most roads are installing CTC rather than automatic block, as on 68 miles on the Burlington between Bushnell, Ill., and Quincy, where work was completed in December. The added cost of CTC over automatic block is easily offset by the saving in train time and in wages of operators eliminated.

Radar Automation in Yards

In 1955 further developments were made in the use of electronic devices for automatic controls of power switches and retarders in classification yards. Prior to 1950 each towerman had control of the switches and retarders in a certain area, so that in a large yard there might be three or more towers. Now, one tower is enough, even for a large yard up to 48 tracks, and the man in that tower is needed only for "monitor" control, because normally all controls of switches and signals are automatic.

Automatic control of switches in car retarder yards was first installed in 1950, on the Canadian Pacific and the Illinois Central, and has been included in many of the larger yards constructed within the past three years.

A system of automatic retarder control in which the speed is measured by short track circuits was installed in a yard on the Milwaukee in 1952. A system using radar equipment for speed measurements was applied to 16 tracks in a yard on the Elgin, Joliet & Eastern in 1953, and was extended to the entire 58 tracks in 1954.

As applied in a new yard on the Southern Pacific at Houston in 1955, this automatic retarded system includes the latest type of electronic analog computer, which controls each retarder to release a car at the proper speed, based on such factors as relative weight of car; rate of acceleration; rollability; and curve resistance on the route to the classification track. This yard has now been operated with complete automatic control on all 48 tracks for several months. Modern controls are included in a large yard on the Pennsylvania near Pittsburgh, the major portion of which was completed late in 1955.

New yards now under construction or planned for 1956 are at Minot, N.D., on the Great Northern; at El Paso, Tex., on the Southern Pacific; at St. Paul, Minn., on the Milwaukee; on the Canadian National at Montreal; at Eugene, Ore., on the Southern Pacific; at Atlanta on the Southern; and at Memphis and Tulsa on the Frisco. Also on some roads such as the Rock Island and the Union Pacific, yards constructed a few years ago are now being changed from manual control to automatic.

Railway Outlook

Purchases . . . Up Again in '56

By J. W. MILLIKEN

Associate Editor

1956 will be a year of rising prices and some shortages of material. It also may be the biggest buying year in railroad history. Purchases of materials, supplies and fuel probably will go well above the $2 billion level.

There are several reasons why this probably will be the railroads' biggest buying year, in terms of dollars. First, of course, high traffic levels will raise materials, supply and fuel consumption. Second, inventories have declined to the point where the increased rate of consumption makes necessary some buying for inventory. Third, much of the new freight equipment ordered in 1955 will be delivered in 1956. Fourth, price increases to be expected this year will help boost dollar volume.

During the first quarter of the year, at least, steel for building and repairing freight cars, particularly, will be hard to get. As 1955 bowed out, however, there were some indications that the automobile industry's demand for steel was easing somewhat. Whether this situation will continue long enough to free more steel for railroad and other uses presently is hard to say. However, it seems rather a faint hope for the railroads to indulge in at this time, especially since demands for steel from other industries also are expected to continue strong.

The railroads' need for all types of iron and steel for repair of freight cars should be great during the year. Twenty-eight railroads reporting to *Railway Age* have indicated that they expect to rebuild or give heavy repairs to more than 105 thousand freight cars during 1956, at an approximate cost of $139 million. These roads own about 60% of the nation's freight cars. Clearly, this should be a fine year for the railroads' suppliers of freight car parts and appliances, if the materials can be furnished the carriers.

OCTOBER RAILWAY INVENTORIES

	October 1, 1955 (000)	October 1, 1954 (000)
Rail	$ 44,273	$ 49,143
Crossties	89,630	108,033
Other Material	477,825	536,434
Scrap	18,884	20,371
Fuel	30,412	35,397
	$661,024	$749,378

Figures are subject to revision. All total inventory figures taken from ICC statement M-125 for the month indicated.

Total purchases—including equipment orders—will go well above the $2.5 billion mark.

- Price increases and some shortages—steel and crossties particularly—can be expected.
- There will be buying to boost inventories.

The rail renewal programs of many roads also may suffer a bit due to the shortages of steel. Reportedly, the railroads' rail renewal programs will be up about 14% from 1955 levels. This is new rail. But additionally, there's scheduled to be a large increase in the amount of relay rail placed in track. That generally calls for plenty of new spikes, if nothing more.

Such an increase in rail renewals will bring along with it the need for more ties. Based on reports from carriers, tie renewals in 1956 will be 10% above the 1955 level, and 13% up from 1954.

Tight Squeeze in Ties

Tie production in the last year or so has been at a low ebb. At the same time, inventories of producers have declined substantially. Hence, there probably will be a tight squeeze in ties. Already there are reports that top grade prices are being paid for something less than the best in ties, just so that the roads will be able to get any ties at all. The people being offered this money are, of course, the small producers.

Some purchasing officers are predicting that the worst is yet to come in price increases. From October 1, 1954, to the same date in 1955, the AAR's composite price index rose 6.5 points, or about 5%. Four of these points came in the last six months of this period. Already, price increases to take effect on or after the first of the year indicate that from January to April there will be a somewhat stronger upward movement of the price index than there was in the same period in 1955. A movement of three or four points probably won't surprise anyone too greatly, especially in forest products.

Inventory values during 1955 continued their decline which started back in the spring of 1953. From October 1954 until October of '55 a decline of almost 12% occurred. This decline was in the face of (1) an increase in traffic; and (2) increasing prices. With the traffic picture bright, some railroad buying for inventory will be done. Inventory value increases will be spotty among the various categories of supplies.

As always when the railroads, relatively speaking, are "in the chips" most railroad suppliers will be doing a good business. Plans for this year, so far announced by the railroads, indicate that there will be vigorous buying of paint, two-way radio, CTC, data processing equipment, and maintenance-of-way work equipment. But locomotive orders, too, should be worth watching, especially if by mid-year the signs are that things will continue to look good for the rest of '56. One railroad already has stated that it has under consideration purchase of enough new diesels to complete the dieselization of its property.

Conditions indicate that at least four more roads probably will be in the market for power in substantial numbers if the year continues to be as good as it now seems it will be.

The overall value of equipment ordered during 1956 will be much lower than similar figures for 1955. Chiefly, this will be because of a decline in freight car orders. Toward the close of the year, however, if all looks well for '57, there should be a mild flurry of freight car orders. And if the new lightweight passenger trains pass muster, some activity in this field probably can be expected.

There is one category of equipment in which purchases or leasings should rise during 1956—trailers for piggyback service. Apparently, as long as the railroads continue to give reasonably good service, this traffic will grow rapidly. Most roads operating this type of service expect to be in the market for trailers during 1956, although some of them haven't decided how many they'll need. Their purchases probably will depend on the number of new points they open up to such service in the year ahead. But six railroads have reported to *Railway Age* that they will buy or lease a total of 761 trailers in 1956. Most of these will be bought by two of the larger roads who now are furnishing t-o-f-c service.

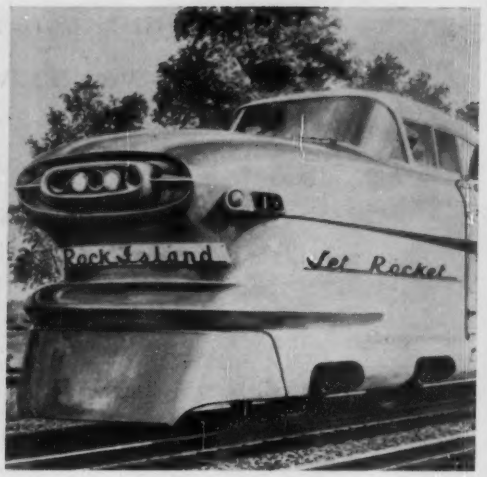
It is our prediction now that purchases, exclusive of equipment orders, probably will be well over the $2 billion mark this year, and probably will run close to $2.5 billion. In only two years, 1948 and 1951, has the $2 billion mark been topped. Surely, 1956 will be the "biggest ever" year.

INDEX OF AVERAGE UNIT PRICES
Railway Materials and Supplies*

U. S. CLASS I RAILROADS

	Oct. 1954	Jan. 1955	Apr. 1955	July 1955	Oct. 1955
Fuel	109.1	111.1	110.8	109.2	110.1
Forest Products	123.1	123.7	124.1	124.7	127.2
Iron & Steel Products	146.3	146.7	147.1	147.7	157.6
Misc. Products	123.3	124.3	127.5	127.5	131.8
Total, Excl. Fuel	132.8	133.4	135.2	135.4	141.6
Total, Incl. Fuel	123.9	125.1	126.2	125.8	130.2

*Average of June, 1947, 1948 and 1949=100.0



NEW HAVEN "hot-rod" train will be a variation of the standard RDC cars. Budd's regular RDC's continue to be popular with the railroads.

AS A SOLUTION FOR CONTINUED TRAFFIC DECLINE...

Passenger Car Concept Is Changing

Low-cost, low-slung trains in high gear in a coach-oriented market that brought orders for around 400 cars last year

The year 1955 will be marked as the one in which the light weight, low-slung coach train moved back to the center of the American railroad passenger scene. It was a year in which orders for five such trains were placed and two more promised. In 1954 the Rock Island took the first step with an order for a Talgo-type train for service between Chicago and Peoria. Both the New Haven and the Boston & Maine ordered Talgos in 1955, and ACF completed the Rock Island train as the year drew to a close. The New Haven and New York Central each contracted for a nine-car Pullman-Standard "Train X." A low-slung, tubular train was ordered from Budd by the Pennsylvania. General Motors exhibited and tested the "Aerotrain," and the Pennsylvania and New York Central will have such trains operating early in 1956.

In all of these designs there is a departure from standards and traditions of the past. The light weight concept that first emerged in the 1930's and then disappeared during the drive for increasing luxury has once again come to the front. Only the Budd tubular train will use conventional trucks and couplers. Standard coupler heights and coupling arrangements are not used by ACF, Pullman or General Motors. Each of their trains utilizes some type of single-axle truck. The conventional center sill has been supplanted by other structural arrangements. Head-end a-c power and electric heating have been adopted to simplify coupling and reduce weight. Some of the designs will be partially articulated.

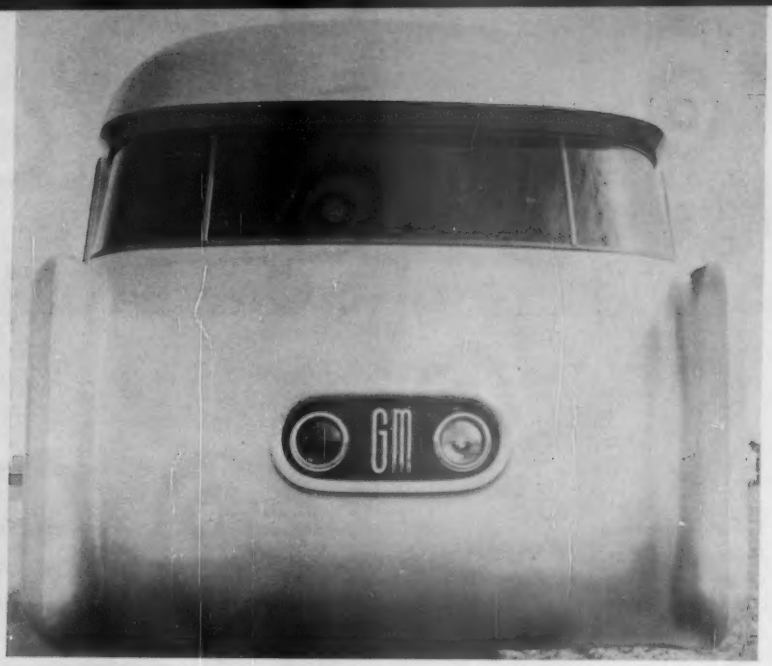
Railway Outlook

More conventional, but still not completely so, were two other passenger car orders. The New Haven contracted for a six-car Budd RDC train including two cars that will have electric traction equipment and will be specially built to serve as the two end units for this high-speed train. The Santa Fe ordered 47 high level coaches, diners and lounges to completely re-equip the "El Capitan." Two such cars were delivered by Budd in 1954 and have been in service since then.

All of these trains are exclusively or primarily for coach travel. Traffic and revenue figures indicate that the railroads have reasons for their interest in this field.

Although passenger miles have continued to decline, non-commutation totals were still higher than they were for any year from 1930 to 1940. There is more commuting than there was during any year between 1933 and 1942. Since the Korean war the first class travel included in the non-commutation passenger miles has declined much more rapidly than coach travel. Coach travel is about the same as it was in 1950, but first-class travel is now only two-thirds of the 1950 figure. The trend which moved an air line into first place in passenger-mile production in 1954 continues unabated.

The low seating capacity of coaches built after World War II has not been continued by recent developments. The high-level coaches of the Santa Fe have more seats than their conventional long-distance predecessors. For commuter service, most cars delivered in 1955 seated well over a hundred passengers. Thirty-six suburban cars delivered during the year were of the "gallery" type and 26 of this type were ordered. The Long Island received many of the 220 commuter cars for which it had



ROCK ISLAND "Jet Rocket" (left), built by ACF, will go into operation shortly. OBSERVATION CAR (above) of the General Motors "Aerotrain."

contracted. High capacity is achieved on the LI cars with a three-two seating arrangement.

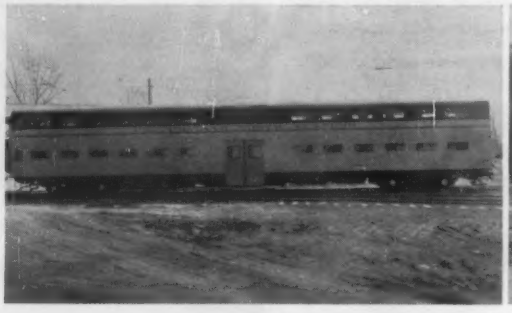
After twenty years of service, the Burlington ordered equipment to re-equip the "Denver Zephyrs." Included in these trains will be the first 40-passenger Budd "Siesta coaches," and the only dome cars ordered in the US this year.

In 1955 Great Northern, Union Pacific, and Canadian Pacific dome car orders were completed, and this service was then available on nearly every transcontinental route. The CPR cars were part of an order which has modernized much Canadian Pacific long-distance service. Conventional profile lounge cars for the Seaboard were ordered with glassed roofs—the first such cars since the Milwaukee used the idea in 1948. Canadian and US railroads continued to place orders for Budd RDC cars. The Boston & Maine received 48 RDC's early in the year to completely change its method of operation around Boston. RDC cars displaced conventional trains on a number of other railroads, although the year saw passenger service ended completely on numerous branches and secondary routes, and greatly curtailed on others. The Santa Fe began direct passenger service into Dallas over its newly opened line.

Despite changes in the handling of mail and express, there has not been a drastic reduction in the ownership of head-end equipment in the past 25 years. About half of the passenger equipment ordered in 1955 was for this service. Half of the remainder, or a quarter of the total, was for commuter service. A 30-year period has seen a reduction of approximately 50 per cent in the ownership of coaches, parlor and sleeping cars. In 1954 there were 866 passenger cars of all types delivered in the US, and 1,901 retired—both figures are about average for the years since 1950. The 38,293 passenger train cars owned early in 1955 had an average age of nearly 28 years.

For the fifth straight year the railroads made no attempt to manufacture their own passenger cars, although rebuilding, such as was done by the Southern Pacific in making its dome-lounge cars, was a major project for some lines. Some railroad shops have become very expert at rebuilding and restyling cars. Having this experience, some orders have been placed with car builders for coach shells which then go to the railroad for completion. Except for the active Canadian market, US builders exported almost no equipment. One of the unanswered questions of the year was who would build the General Motors lightweight train.

Luxury equipment is still being produced for long-distance services. Increasing attention is now paid to some commuting operations, and equipment built to high standards is being provided. Both here and in long-distance service there is a trend toward having more passenger seats available in each car to reduce the total number of cars and the dead weight per passenger.



SEVERAL SUBURBAN services are being re-equipped with new commuter cars. These gallery cars for the C&NW (right) were built by the St. Louis Car Co. LONG-DISTANCE service equipment orders continue to include sleepers and coaches such as this MKT car (far right) built by Pullman-Standard.

Railway Outlook

Some Freight Car Problems

Changes required by increased operating tempo, need for special loaders and mechanized loading have been engineered, but go into service slowly

By C. B. PECK
Consulting Editor

It has long been the practice to look at general-service freight cars in the mass, not as individual pieces of equipment. Indeed, there was little to distinguish one car from another, so far as their function in the movement of freight is concerned. The less difference there was between one hopper, or gondola, or box car and another, the better from the operating man's view point; such cars were available for any kind of loading anywhere and empty car miles were at a minimum.

During the many years when this situation prevailed the central freight-car problem was the development of a balanced design strong enough in all its parts to withstand all the stresses imposed by the lading and by train and yard operation. During the twenty years between World War I and World War II great progress was made in improving the durability and reliability of freight rolling stock.

Outside the cemetery no situation is static. While the strength and reliability of freight rolling stock was improving, two kinds of changes were taking place. Trains were growing longer and train and switching speeds were increasing. The growth of mass-production industries was creating demands for equipment in box cars and gondolas to facilitate handling large quantities of duplicate packages or identical parts, and for cars suitable for mechanized loading. It is from these changes that a considerable group of unsolved or only partially solved freight car problems arise.

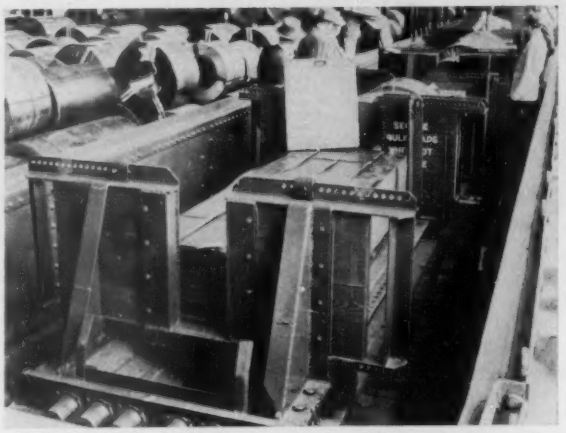
To Meet the Modern Tempo

The high speeds at which long freight trains now operate have increased the magnitude of the shocks to which freight cars and their contents are subjected on the road. The higher rate of acceleration of which diesel locomotives are capable as compared with steam accentuates this difficulty. The demand for speed in the yard, particularly in hump yards, also contributes to excessive shocks.

Cars are strong enough to withstand these shocks without undue failures, but much too often the contents can't take it.

In some hump yards, in which the speed of car movements depends upon the judgment of the operator in the tower, damage from excessive coupling speeds occurs often enough to give the hump yard a bad name among many carload shippers and consignees.

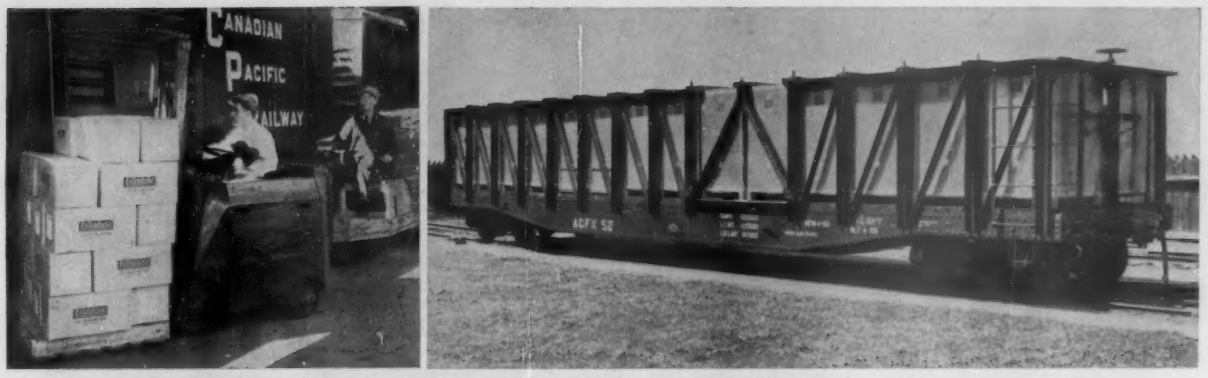
Two means are available for reducing the stresses to which freight cars and their contents are subjected during the process of absorbing the energy released by changes of velocity between the cars in a train. One



BULKHEADS which divide cars up (above) into a series of compartments have been reducing damage.

NEW GATE, easily installed, (below) holds merchandise firmly in place.

STEEL COVERS on gondolas (above) and collapsible tops on flats (below) simplify shippers' packaging problems.



PALLETIZED LOADS (left) and bulk commodity containers (right) which are handled with lift trucks are changing car design requirements.

is the cushion underframe, which provides a cushioning travel of up to 7 in. between the center sills and the car body. Since energy is absorbed by a force acting through distance, the value of the force reached at the end of a cushioning action is proportionally reduced as the distance through which it acts is increased. Safe coupling speeds for cars equipped with such a device are several miles an hour higher than for cars without them, and shocks in trains are similarly reduced.

The other means of reducing the effect of changes of velocity between cars in freight trains is to keep slack out of trains and thus prevent changes in velocity between cars. This is one of the effects of Type F freight car coupler. The starting tractive force of diesel locomotives is sufficient to permit them to start any train which they can handle without the aid of slack.

The protection of loading in box cars has been greatly improved by various means of compartmentizing the lading, from strap anchors to the unit-load multi-door car. These facilities not only reduce the amount of lading which moves together as a single mass but reduce the distance through which it moves.

The application of the compartmentizer principle is now spreading to gondolas. This and the various methods of weather protection which are being applied to sheet steel shipments in coils and bundles are greatly increasing the usefulness of the gondola.

Better Service for the Shipper

Another unsolved freight car problem is unreliable journal-box performance resulting in hot boxes. This problem has been the subject of intensive study for at least two years. Several changes in the method of lubrication of plain bearing boxes have been developed to the point of use. Roller bearings are going into service slowly on cars which stay on the home road. But neither of these measures has been carried far enough to have modified the overall situation greatly. The present move to outlaw the use of loose journal box packing in plain bearing boxes—which may be effective on new, rebuilt, or heavy-repair cars in another year, and on all cars three or four years later—promises ultimate improvements.

The problems created by speed and train length affect all types of cars alike, except that hopper-car lading is not as subject to damage from rough handling as that in box cars and gondolas. The problems created by the desire of shippers to reduce packaging and loading expenses apply primarily to box cars and gondolas. They are being solved by various types of loaders and by cars equipped with jigs suited to the loading of a single part or subassembly. Mechanical loading of box cars, however, and the methods of supporting part of some loads from the sides of the car, are raising questions as to the adequacy of the design of side sills, door posts and floors. Despite the availability of steel or steel and wood floors, many shippers are loath to give up the wood floor, if it is adequately supported.

The encroachment of specialized types of box and gondola cars, designed for loading a single or limited number of products, on the bailiwick of the plain box or gondola is becoming an accepted factor in the business. Despite its unfavorable empty-car-miles aspect, compensations are developing, particularly where cars are assigned to special interchange routes.

Methods for the solution of practically all of the freight-car problems mentioned in this article are either past the design stage or in it. Why, then, are they still considered unsolved? Because, after a solution is known, it takes years for it to become effective. This is a fact of long standing in the railroad field—one which has long been accepted as the norm. But with the competitive conditions such as the railroads operate under today it is a dangerous norm to retain. Rough handling and the cost of packaging to protect against it are driving traffic off the rails onto the highways.

All of the improvements available for alleviating these conditions add to the price at which a plain car can be purchased. This constitutes the key problem of them all. Except for the items behind which the shippers rally with more or less pressure, the return on the additional investment required for the details which make the new cars modern is more or less intangible. Futhermore, the benefit is never fully realized until a substantial proportion of all cars are so equipped, and the partial benefit attained during the early stages of the transition accrue only partially to the purchasing railroad.

The freight-car problem which transcends them all is that of getting enough cars. At no time since World War II have the railroads been completely free from car shortages, and during most years they have been substantial. That cars are being ordered now at a much higher rate than for years marks no real solution of the problem.

YARDS: Symbolic of progress in construction of new classification yards to speed the handling of the nation's freight is this car entering a recently opened portion of the Pennsylvania's Conway yard.

NEW LINE CONSTRUCTION: The use of modern grading equipment is a big factor in expediting the construction of new lines. Here, a crawler shovel is loading a scraper in connection with the relocation of the Spokane, Portland & Seattle.

A BIG YEAR AHEAD . . .

Construction to Hit Boom Level

From a slow start early last year, the rate of expenditures for improvement and additions to fixed property has increased rapidly—If the present trend continues, 1956 may well set a new postwar record

By HALBERT H. HALL
Associate Editor

Expenditures for the improvement and extension of fixed property on the railroads is heading for an estimated total of about $410 million in 1956, a new postwar high. This is heartening news indeed following a year in which the money spent for new and improved facilities dropped to the lowest level since 1950. The previous postwar record of $405.8 million was established in 1952.

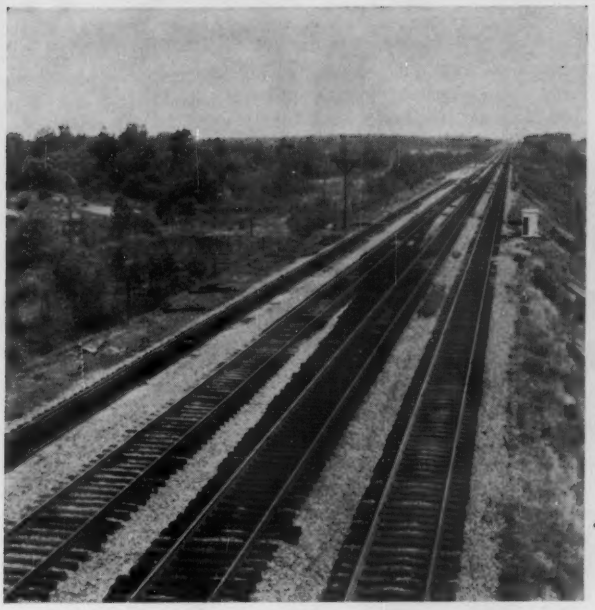
Plans for this year's programs mirror the confidence created by the near record revenues of 1955. Particularly sharp is the contrast between the year ahead and the year that has just come to an end. The programs for that year were spawned in the gloom of a year of recession.

Starting at the end of 1954, spending for the improvement of fixed property has advanced with each quarter when compared with the year ending with the preceding quarter. Based on an analysis of actual and estimated figures furnished to the Interstate Commerce Commission by all but five Class I roads, this advance should continue through the first quarter of 1956. In fact there is nothing in sight at the present time to prevent the projection of the trend thus established through the entire year. The picture thus formed indicates that managements generally have gradually loosened the purse strings through the past year as funds became available and are now thinking in terms of even larger improvement programs, with better service and greater efficiency the ultimate goals.

Where the Money Will Go

What form will these projects take? To obtain the answer to this question *Railway Age* requested all the railroads in the United States, Canada and Mexico to furnish details of current projects costing $1 million or more. The replies indicate that 163 projects* of this magnitude are in various stages of completion. The trend, generally, follows the plans of making plant changes designed to implement operating efficiency and provide improved and modern facilities for the repair and maintenance of equipment. In addition large sums will be spent on grade-separation projects required by the extension and modernization of the highway system and the construction of toll roads and superhighways. The expenses of many of these separation projects will be shared with government bodies. New lines are being constructed, especially in Canada, to tap new territories and lines are being relocated in areas subject to flooding in connection with government reclamation and flood-control projects.

*These projects are listed in this issue on page 190.



▲ **BUILDINGS: This freighthouse recently completed on the Louisville & Nashville at Nashville, Tenn., is of prefabricated aluminized corrugated steel.**

◀ **TRACK CHANGES in connection with installation of CTC are important in the construction picture. Here, switch ties have been installed preparatory to placing high-speed turnouts and removing two outside tracks on a New York Central project.**

Construction of new yards and improvements to existing yards comprise one of the most active categories of work under way. Among these is the $31-million Conway Yard of the Pennsylvania near Pittsburgh, which is now well over the halfway mark toward completion. Several other roads are embarking on ambitious programs of new yard construction. To mention a few, these include the Frisco with a yard project under way at Memphis and one scheduled to start in the near future at Tulsa, Okla.; a joint Louisville & Nashville—Nashville, Chattanooga & St. Louis project at Atlanta; and the Canadian National, which is building a classification yard in the Parish of St. Laurent, Montreal, at an estimated cost of nearly $20 million.

New Lines in the Lead

Moneywise, if not in the number of projects, new line construction projects lead the field. Headlining this category is the new 330-mile line of the Pacific Great Eastern being built from Prince George, B. C., to a connection with the Northern Alberta at Dawson Creek and the Alcan Highway at Fort St. John. This extension is expected to cost $42 million. Other important projects in this category which are to be pushed to completion or initiated this year are the Canadian National's 155-mile new line from Beattyville, Que., to Chibougamau and the new 45-mile line to be known as the Wabush Lake Railway which is to be constructed from a connection with the Quebec North Shore & Labrador at MP 224 to Wabush Lake, N. F., to tap a new iron ore field.

Among the undertakings which are expected to return large operational savings along with reductions in maintenance expense are a number of CTC projects which in some cases include the retirement of multiple tracks. Among the more important of these is that of the New York Central which is installing CTC on its Erie division and retiring the third and fourth main tracks between Bay View, N. Y., and Nottingham, Ohio, at a cost of $6 million. Another is the Southern Pacific's $7 million CTC project with related line changes between Thermal, Cal., and Yuma, Ariz.

One of the more interesting projects under way in connection with rail-water terminals is the construction by the Alaska of a two-berth marine terminal at Seward, Alaska, at a cost of $4.79 million. This project when completed, will, be used to handle car-ferry service between the United States and Alaska. Other important projects in this category are the construction of train-ferry slips by the Canadian Pacific at Vancouver, B. C., and ore and coal handling piers at Newport News, Va., by the Chesapeake & Ohio.

A Large Grade-Separation Project

Separations of grades in connection with the construction of new highways, superhighways and toll roads include one required at the LaSalle Street station, Chicago, by the construction of the new Congress Street Expressway. In this project, now in progress, bridge spans are being installed to carry the station's 11 tracks over the expressway which, with sidewalks and median strip, is 116 ft wide at this point.

The construction picture also embraces a number of undertakings involving the building of shops for the repair and servicing of diesel power and for the repair and construction of freight and passenger cars. Conspicuous in the latter group are the new Erie shop at Meadville, Pa., and the Pennsylania's shop at Hollidaysburg, Pa.

Large sums are also to be spent by several Mexican railroads for rehabilitation work. The Ferrocarril del Pacifico, for example, spent some $22 million for this purpose during the year just past.

Looming large in the new construction picture are the cumulative effects of numerous small but important projects designed to improve and modernize the railway plant. In the aggregate they are important in adding greatly to the total amount of money being spent for improvement work.

One of the New Haven's 10 new rectifier type locomotives

FUTURE MOTIVE POWER . . .

Electric, or Diesel, or Both?

Diesel maintenance policies could be improved by cost studies—Electrification shows future possibilities as the result of new developments—New types of locomotives under study

By A. G. OEHLER
Electrical Editor
And H. C. WILCOX
Mechanical Editor

As of November 1, 1955, U.S. railroads had a total ownership of 24,629 diesel-electric locomotive units. While the figures for the entire year 1955 are not yet available, it appears that the installation of new units and the number of new units on order may be the lowest in any year of a 10-year period.

The greater part of these motive-power units are less than 10 years old. The major job the railroads face in the next few years to keep them going is that of replacing major unit assemblies, such as power plants or trucks, or doing a major rebuilding job on the entire locomotive at the expiration of its service life as governed by the expected mileage in relation to the character of service on a particular road.

Actually, as to motive-power maintenance policies, the railroads' position is not much different from that prevailing 25 to 30 years ago with respect to steam. At that time steam locomotive repair shops were still in the process of being modernized to provide a more efficient and economical means of restoring steam locomotive mileage, in spite of the fact that the roads were rapidly approaching the end of the steam locomotive era. As the diesel came into the picture, the roads found themselves with a vast network of repair shops and servicing terminals. At present they stand a good chance of heading in the same direction with respect to diesel maintenance facilities.

Many mechanical officers are, today, of the opinion that one of the things most needed with respect to motive-power maintenance is an analytical cost study that will enable a road—whether it be large, medium, or small—to determine, with accuracy, just what kind of maintenance policy it should follow.

Without accurate facts, no management can determine whether or not it should establish facilities for making major diesel-locomotive and parts repairs, or whether it should rely upon the builders to do this work. Many parts reclamation and repair operations have been set up on the basis of comparative cost figures in which the cost of doing the job in the road's own shop has been

related to the cost of rebuilt or new parts on a unit exchange basis. The big "bone of contention," when it comes to studying the cost of many of these jobs, has involved overhead costs, which, in a railroad shop, may vary from the seemingly ridiculously low figure of 15 per cent all the way up to 200 or 300 per cent. This wide variation in plant overhead gives rise to the suspicion that there cannot be much uniformity in repair operation costs. Until an intelligent study is made of this subject not much of real value can be forthcoming upon which to base maintenance policies.

Not even the most optimistic proponents of the diesel-electric would have dared predict that the change from steam would take place so rapidly. Changes have a habit of occurring fast these days, and with today's developments in research there is no assurance that some new form of motive power may not come into the picture in the next few years that will cause the diesel to become obsolete. Should such a thing happen again, the roads will have only themselves to blame if they find themselves with millions of dollars worth of expensive maintenance facilities that might have to be abandoned.

The Coal-Fired Gas Turbine

Work on the coal-fired gas turbine locomotive project conducted by the Locomotive Development Committee over the past ten years is continuing. In mid-December it was announced that testing at Dunkirk probably would be concluded in 1956. It is expected that the first coal-fired gas turbine locomotive will be under construction in 1957. Satisfactory performance is being obtained with the Dunkirk installation. A suitable fly-ash separation system reportedly has been developed, and good combustion efficiencies have been achieved in tests with Pittsburgh, Pocahontas and western coals. The original concept of crushing lump coal on the locomotive has been replaced with the idea of handling precrushed coal in a pressurized air stream which will allow it to be stored and handled much like fuel oil.

Gas Turbine Locomotives

The Union Pacific has ordered 15 8,500-hp gas turbine electric locomotives from the General Electric Company and has expressed its intent of ordering 30 more, at a total cost of $38,000,000. This is a thoroughgoing endorsement of this form of power, based on years of operation of the 4,500-hp units in the service of this road. Evidently they satisfy the Union Pacific's motive power needs between Cheyenne, Wyo., and Ogden, Utah. The increase in horsepower is another indication of railroad needs for more power and more speed. Tenders for the new locomotives will be coupled and will carry heated fuel oil.

Atomic Motive Power

The atomic locomotive came under discussion several times last year. Now that more information is available on shielding of reactors for the protection of personnel, it appears that railroad clearances for complete shielding just barely permit locomotive application. This limitation is modified by the fact that full shielding is required only at full load, and at full load a locomotive is always moving. It is then not exposing anyone at the side, where shield is at a minimum, to prolonged radiation.

Advantages of an atomic locomotive for military service are obvious since there would be no fueling problem. Possible hazards in cases of wreck so far are a strong deterrent to other railroad application.

Railway Electrification

Railway electrification is making news.

The New Haven now has 100 new rectifier type m-u electric cars and 10 new rectifier type locomotives in service. Recent managements were tempted to abandon the New Haven electrification, probably because of large salvage values immediately available, but apparently a study of the situation indicated that the electrification is more than paying its way. New lightweight passenger trains now under construction have been designed to operate from the 600-volt, third rail in the Grand Central area and by diesel power for the remainder of the run from New York to Boston.

The Virginian has ordered 12 new rectifier type locomotives. Diesels were considered for this operation, but were not adopted. It is conceivable that when the motor-generator units in older locomotives reach the end of their economic life more rectifier units will be purchased for operation on 60 cycles and the controls of the 12 be changed for 60-cycle operation. This would allow the railroad to dispose of its big power plant at Narrows, W. Va.

Better Utilization

The Milwaukee has recently shown what an old electrification can do. By increasing trolley voltage, making substations automatic, purchasing 12 new locomotives, overhauling old ones, improving maintenance facilities, bettering its power contract and making other improvements, this electrification, in spite of age and relatively light traffic, has kept pace with diesels in performance and economy.

The Pennsylvania is making a study of how to improve and better utilize its electric motive power. This would develop more intensive use of electric locomotives and includes the possibility of using highspeed m-u cars for the "Clocker" passenger trains between New York and Philadelphia, and for service between New York and Washington.

The Great Northern plans to abandon its 73-mile electrification of the Cascade Mountain crossing between Wenatchee, Wash., and Skykomish. Diesels will operate over the section without need for change of locomotives. A ventilating system will be used at the east portal of the eight-mile tunnel to clear it of exhaust gas and to reduce temperatures in trailing diesel locomotive units.

More Subway Equipment

Cars for the New York City Transit Authority constitute the year's largest purchase of electric rolling stock. In the 10-year period 1948-1957, 1,600 new subway cars will have been placed in service. They are equipped for smoother acceleration, dynamic braking, better ventilation, and fluorescent lighting, and may be air conditioned. Reduction in structural weight has permitted addition of these features without increase of total car weight.

Congress Will Listen—Look—Stop

Election-year session, with politics to fore, is not expected to result in legislation carrying out recommendations of Cabinet Committee report, but the railroad case will get comprehensive hearings on Capitol Hill

By WALTER J. TAFT
Washington Editor

Top priority on the railroad industry's 1956 legislative program has been assigned quite naturally to the rate-freedom proposals. While some of the industry's leaders have been on record with expressions of hope and expectation that legislation to implement those proposals might be enacted, the prospects for realizing such hopes now appear quite dim.

Meanwhile, the railroads will have ample opportunity to state their case at comprehensive congressional hearings, and that should be all to the good. It should promote greater understanding of transport competition on Capitol Hill and, perhaps, something in the way of a policy review at the Interstate Commerce Commission, which could give carriers much more rate-making freedom than they now enjoy. It will be recalled that agitation for so-called "time-lag" legislation, to assure prompt increases in railroad rates as costs rose, did not bring such legislation; but the "time-lag" in general rate cases was pretty well eliminated by the commission.

Political Set-Up

That prospects for legislation appear dim is due, of course, to the fact that the principal business of an election-year Congress soon becomes politics. This is especially true in a Presidential election year when, as now, the Congress and the Presidency are controlled by opposing political parties. Unless they consider it "good politics," the Democrats in control of Congress are not likely to have much interest in a transport program of the Eisenhower Administration.

That's what the railroads' rate-freedom program is. It came out of the report of President Eisenhower's Advisory [Cabinet] Committee on Transport Policy and Organization which was headed by Secretary of Commerce Weeks. The rate-freedom proposals are designed to accord railroads and common carriers generally more leeway to adjust rates in competitive situations. The cabinet group also made other recommendations, including calls for a new declaration of National Transportation Policy, sharper definitions of private and contract carriage, repeal of the bulk commodity exemption applicable to water carriers, and more ICC power over abandonments of intrastate rail services. (*Railway Age*, April 25, 1955, page 49).

Omnibus bills designed to carry out the recommendations are now before Congress. The Senate bill, S.1920, was introduced by Senator Smathers, Democrat of Florida, for himself and Senators Magnuson, Democrat of Washington, and Bricker, Republican of Ohio. The latter two are chairman and ranking minority members, respectively, of the Senate Committee on Interstate and Foreign Commerce.

House bills, identical to S.1920 and to each other, are H.R. 6141 and H.R. 6142, introduced by Representative Priest, Democrat of Tennessee, who is chairman of the House Committee on Interstate and Foreign Commerce, and by the committee's ranking minority member, Representative Wolverton, Republican of New Jersey. All three bills went in on "by request" bases, which means that the introducers are not committed to the proposals.

While the railroads have indicated that they support, in general, the "purpose and objectives" of the Cabinet Committee's report, they are not proposing that the "package" be enacted into law. They are concentrating on those rate-freedom proposals embodied in the suggested new declaration of National Transportation Policy and the recommended changes in the ICC's authority over minimum rates and in its power to suspend rates.

J. Carter Fort, vice-president and general counsel of the Association of American Railroads, has already advised the House committee to this effect, revealing also that the railroads "take no position at this time" on the recommendations relating to maximum rates and the proposal to subject special rates accorded government agencies (so-called Section 22 quotations) to filing requirements and several other provisions of the Interstate Commerce Act. Mr. Fort has described the proposed new policy declaration as a change "designed to make clear that carriers regulated under the Interstate Commerce Act shall have a much greater degree of freedom in competitive rate making than is now the case." As to the minimum rate proposals, he has pointed out that their adoption would end the "fair-share-of-the-traffic" approach by prohibiting commission consideration of the effect of a proposed rate on another mode of transportation—but the compensatory test would remain.

The proposed change in the commission's power to suspend rates would shorten the suspension period from seven to three months. Moreover, it would call for a stronger showing than is now required to obtain suspension; and, where the only protestants were competing carriers, the burden of proof would be on them instead of carriers proposing the rate change. The proposing carriers would be left with the burden in cases where shippers were protestants.

There is some feeling that, if this "heart" of the rate-freedom program were embodied in a short bill, it might

have some chance of enactment this year or next. Such a view has been expressed by President William T. Faricy of the AAR. That approach would find the railroads supported by organizations representing their employees, which would perhaps oppose a 'package" if it included provisions authorizing the ICC to override state commissions in authorizing abandonments of intrastate services.

Also, a short rate-freedom bill could probably be so written as to win the support of the National Industrial Traffic League. At its recent annual meeting, the league did a selective job on the Cabinet Committee recommendations, but it put a stamp of approval on the idea of reducing the commission's rate-making power to allow various agencies of transportation to set rates without regard to their effect on competing agencies. (*Railway Age*, November 28, 1955, page 37).

Meanwhile, however, the trucking industry, as represented by American Trucking Associations, and the water transport industry, as represented by American Waterways Operators, have registered vigorous opposition. Since these interests want nothing done with the transport laws, they are in a position to win as a result of the natural inertia of Congress.

As to the rate-freedom proposals, opponents have made much of contentions that the recommendations as to maximum and minimum rates are not clear. There has been considerable talk of that since the question was raised at September hearings held by a House Interstate Commerce subcommittee headed by Representative Harris, Democrat of Arkansas. Those hearings were confined to presentations by members of the Cabinet Committee and representatives of affected transportation agencies. (*Railway Age*, September 26, 1955, page 7).

ICC Reaction

The Interstate Commerce Commission's views, which were submitted to the Senate and House committees last month, will receive serious consideration in Congress. In general, the commission opposes the rate-freedom proposals, which would trim its regulatory authority, and favors those recommendations which would extend its power. The latter would include the proposals to sharpen definitions of private and contract carriage, and to repeal the bulk commodity exemption applicable to water carriers (*Railway Age*, January 2, page 7).

Hearings Assured

Senate and House committee chairmen are on record with statements that hearings on the Cabinet Committee recommendations will be held during this session. Representative Priest said that was his committee's plan when its September hearings were confined to presentations by the Cabinet Committee and carrier representatives. Chairman Magnuson of the Senate committee referred to the Cabinet Committee report in a message he sent last month to the New York Railroad Club. "There are," he said, "many views on this report and our committee hopes to hear them all."

This, and other statements by Senator Magnuson, indicate an expectation of long hearings. Because of the Senate committee's program for this month, the hearings are not expected to get under way until February at the earliest. They will be conducted by the Smathers subcommittee which will require time to consider the record before submitting its recommendations to the full committee. And the latter will presumably then go in for "due deliberation."

Much the same time-consuming procedure is in prospect on the House side. And the session is expected to adjourn by the end of June or early July. In the absence of a special session, all pending legislation will then die, since a new Congress will be elected in November to take over in January 1957.

Highways and Trip-Leasing

Meanwhile, the railroads are also interested in other proposals before Congress, especially the highway programs. Their main interest here is to have user-charge provisions included in such programs. In last year's session, Congress defeated President Eisenhower's highway program and various substitutes therefor. Such proposals are expected to be revived, however, in this election year which, incidentally, is also a year in which a regular federal-aid highway authorization act is due.

While prospects for a successful railroad year on Capitol Hill are thus not bright, there is authoritative opinion to the effect that the railroads could and should get from the ICC much more rate-making freedom than they now have. That view was expressed by Jervis Jangdon, Jr., chairman of the Association of Southeastern Railroads in his comprehensive treatise on "The Obstacle Race in Transportation," which appeared in 1955's Fall issue of the Cornell Law Quarterly.

"Fair-Share" Concept Is "Pipe Dream"

"The concept of fair shares," Mr. Langdon said, "would seem to be a pipe dream. It can hardly be anything else when the ICC does not even regulate the rates of almost two-thirds of the highway and nine-tenths of the waterway transportation. Moreover, the concept does not appear to be supported by the provisions of the Interstate Commerce Act. The National Transportation Policy specifically calls upon the ICC, in the 'fair and impartial regulation of all modes of transportation' subject to its jurisdiction 'to recognize and preserve the inherent advantages of each,' and where that inherent advantage is a lower cost level, rates which reflect it should not be denied regardless of the effect upon competing modes of transportation. In the *Mechling* case, the Supreme Court made this point clear in relation to the lower costs of water carriers. There would seem to be no room for a different rule where railroad costs are lower."

The commission has not yet accepted this point of view, but commission approaches have been known to shift as the membership changes. And the commission will have a "new look" in 1956. At the year's end, one commissionership was vacant and another had just been filled by the appointment of Rupert L. Murphy, who will be up for Senate confirmation during Congress's present session. The Murphy appointment was for the unexpired term of former Commissioner Cross who resigned.

Other vacancies were expected. Commissioner Johnson, whose term expired December 31, announced that he would not seek reappointment—but he has agreed, at the request of the White House, to remain for at least three more months. Also, there were rumors, which he did not deny, that Commissioner Elliott planned to resign.

Railway Outlook

Activity in the M/W Field

- Lagged Behind Traffic and Earnings Last Year
- But Shows Definite Signs of Catching Up in 1956

By MERWIN H. DICK
Western Editor

TRACK LINING machines, being a relatively new development, were purchased in large numbers in 1955.

When we use the term "recovery" we need to explain the degree of upturn implied. When we say that railroad business generally showed "recovery" in 1955 as compared with 1954 we can add that the increase was substantial and significant. With one exception, the major indices in the maintenance-of-way field showed "recovery," too, in the sense that statistical increases occurred, but we need to qualify the statement with the comment that the upturn in this field was by no means comparable to that which took place in railroad business or income.

But when we look ahead to 1956, we can use the term "recovery" in confidence that we mean just what it generally implies—a significant increase over the previous year. On the basis of information obtained from the railroads themselves, it is possible to say with assurance that, on the basis of present plans, all major categories of work in the maintenance-of-way field will show moderate to substantial increases this year as compared with 1955.

How Figures Were Obtained

The charts show practically at a glance the story of current trends in the more important phases of maintenance work. In those giving rail and crosstie renewals and work-equipment purchases the bars showing last year's performance and the prospects for 1956 are estimates based on actual figures furnished to *Railway Age* by almost all Class I roads. In the chart giving total expenditures of these roads for maintenance of way and structures, the figure for 1955 is an estimate based on official ICC figures for the first eight months, while that for 1956 is an estimate giving consideration to the railroads' plans for heavier rail and tie renewals. There is also an assumption involved—that there will be no serious adverse developments to interfere with projected work programs.

First, let's consider briefly what happened in the various work categories in 1955. Crosstie renewals recovered only slightly from the sharp decline in 1954. Since tie renewals hit an all-time low in that year, it is not saying much to point out that they gained 3 per cent in 1955.

Rail renewals in 1955 did not present a cheerful picture. Although the decline was slight, it is a fact that the rail-relaying operations of the railroads constituted the only major category of work to drop below the previous year.

Various reasons can be given for the poor showing made in tie and rail renewals in 1955. Important among these is the fact that maintenance programs for the year were formulated at a time (in the fall of 1954) when railroad business as a whole had as yet shown little indication of sustained recovery from the recession levels that had haunted the roads during the year. And, as maintenance officers have learned from sad experience, it is much easier to cut expenses when business is going down than it is to get increases in scheduled programs when business is going up.

It is nevertheless true that the increase in railroad business that occurred in 1955 was ultimately reflected in the expenditures for maintenance of way and structures. On a monthly basis, these expenditures in 1955 actually started out at a lower level than in 1954 and they remained under the previous year for the first four months. Beginning in May, however, they rose above the corresponding month of the previous year and remained there throughout 1955. The end result was that total maintenance expenditures showed a gain over the previous year, although percentage-wise the increase was negligible.

Purchases of work equipment made a relatively better showing than any other category of activity in 1955. This is doubtless a reflection of the fact that the railroads are continuing to increase the proportion of work done with machines; which means that equipment purchases conceivably could go up if the amount of work done remained the same, or even if it declined. Estimated work equipment purchases came to $18.7 million in 1955, compared with $16.4 million in the previous year. However, the number of units purchased declined from 7,325 to 7,100.

The obvious conclusion here is that the railroads were buying more expensive units of equipment, and this is

GRINDING of rail out-of-face is now possible by means of a special grinder train that went into service last year.

MORE GRADING is being done by the railroads with their own forces and equipment. This unit, engaged in filling a trestle, is going back for another load.

confirmed by figures showing the actual purchases of various types of equipment. For instance, in 1955 the railroads reported purchases of 101 production-type on-track tampers. This is the largest number of such machines they have purchased in any year as far back at least as 1950. In 1954 such purchases amounted to only 23 units.

Two other examples confirm the statement that the current trend is to more expensive units of equipment. One is that the railroads reported the purchase of 108 ballast regulators last year, whereas in 1954 they bought only 44 such machines. Purchases of grading equipment came to 228 units last year, compared with 147 in the previous year. These purchases embrace a very high percentage of large and expensive units, such as drag lines, scrapers, power shovels, tractors and trenching machines. The effect, of course, is to boost the average unit cost of the equipment purchased.

Since the amount of rail laid in 1955 showed a decline, it is interesting to note that purchases of so-called rail-laying equipment increased to 684 units from 608 in the previous year. However, this increase is accounted for to a considerable extent by greater purchases of such items as spike pullers and spike drivers which are now being used extensively in tie-renewal work.

The railroads reported the purchase last year of 98 tie-renewal machines, compared with 33 in 1954. The significance of this is that equipment in this category is of such recent origin that no separate classification was provided for it prior to 1953.

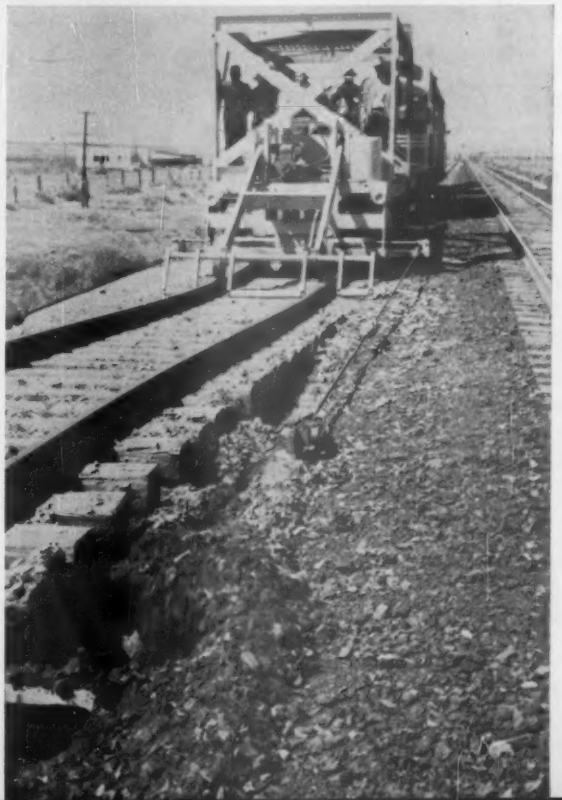
In 1956: Accelerated Activity

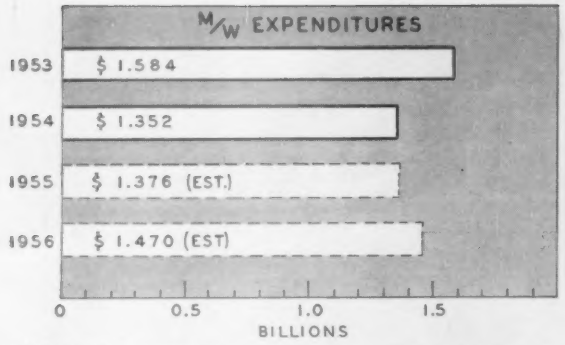
As maintenance-of-way officers consider their programs for 1956, they are confronted with two facts tending to produce accelerated activity. One is the favorable picture for railroad earnings, presupposing the availability of more money for maintenance purposes. The other is the actual need for enlarged programs resulting from the heavier traffic load being carried by the tracks and structures and the further fact that, after two years of subnormal expenditures, it is reasonable to assume that the railroads have some deferred maintenance to make up.

Bearing out this abstract, analysis of the situation, the charts indicate increased activity all along the line. Tie renewals, for example, will rise to the neighborhood of 26 million, an increase of about 10 per cent. Rail renewals are expected to go up from 952,000 tons to 1,080,000, an increase of about 14 per cent. In view of the increases in these and other categories of M/W work, it is expected that total maintenance-of-way expenditures this year will increase about 7 per cent, bringing them to about $1,470 million.

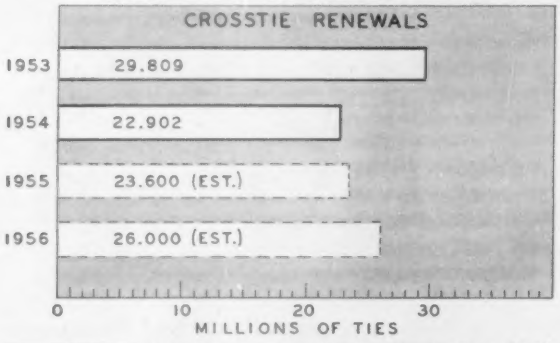
With more work to be done, and with no lessening

BALLAST SLEDS and plows, another new development, were used by a number of roads last year. Here a plow is being drawn behind a work train.

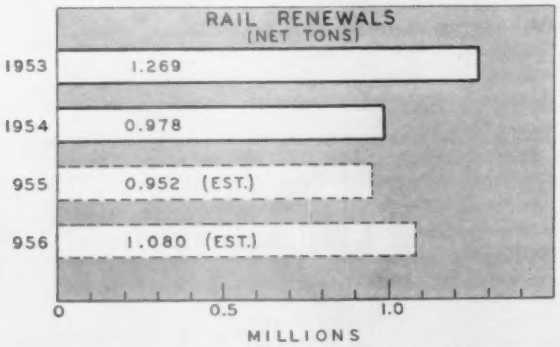




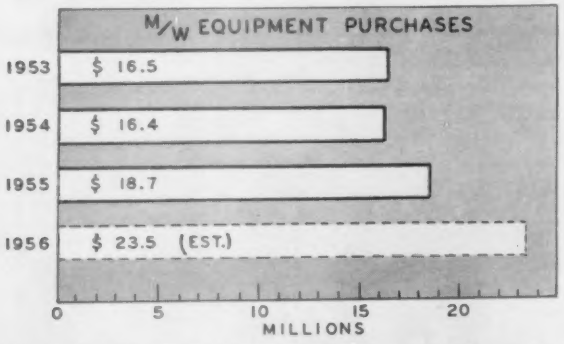
TOTAL M/W expenditures next year are expected to get back close to the $1½ billion level. Figures in all charts are for Class I roads.



TIE RENEWALS will stage a moderate comeback in 1956 but will be considerably below the levels of only a few years ago.



NEW LOW for rail renewals was established last year but estimates for 1956 place them back above the 1-million-ton mark.



REFLECTING the larger work programs and the unrelenting need for economy, work equipment purchases are expected to hit a new high this year.

of the pressure to keep costs down, it is not surprising to learn that the railroads are planning to hike their equipment purchases substantially this year. A total of 86 railroads provided *Railway Age* with estimates of the amount they expect to spend for work equipment during the year. In the aggregate, these 86 railroads plan expenditures well over $12 million for work equipment. In 1955 the same roads spent slightly less than $9 million. If we take a conservative view of the situation and figure on only a 25 per cent increase in equipment purchases, the total spent this year for this purpose will be in the neighborhood of $23.5 million. This will be a new high record; the previous high of $20.7 million was reached in 1952.

That the railroads are planning to buy more work equipment because they want to keep costs under control is obvious. But there is more to the picture than that. What isn't readily apparent to the casual observer is that there are more and better machines available today than ever before—and the railroads are learning how to make more effective use of them. Some of the new types that have been added in recent years include tie-renewal machines, track-lining equipment and ballast-working units. Now there are rumors of even more advanced machines taking shape on drawing boards, or actually being tried out in service. Much of this development work is going on "under wraps," but in view of what is known it is an understatement to say that major advances are in the making.

Other Noteworthy Trends

Aside from the specific developments in equipment already mentioned there are a number of trends in evidence worth noting. One of these is the sudden popularity of undertrack plows and sleds for use in ballasting and surfacing work. Another is the increasing interest being shown in the purchase of grading equipment to permit railroad forces to carry out the grading required by improvement projects. In addition, of course, they are continuing to buy quantities of grading equipment for carrying on maintenance grading operations such as ditch-cleaning, bank-widening and right-of-way smoothing operations.

One of the more recent developments is the trend in evidence on many railroads to purchase trailer-type housing units for accommodating their maintenance-of-way employees. Nearly every railroad that has made a study of the advantages of such housing has decided in favor of it under at least some circumstances, or has initiated experiments to determine whether it is economical and feasible.

The decision of a number of railroads, notably the Santa Fe and the New Haven, to weld most of their new rail into continuous lengths is resulting in greater interest being shown in this practice by other railroads and more of them are planning to adopt it at least to some extent.

Also, the availability of equipment for surface-grinding rail out of face economically is causing more railroads to give attention to the advantages of this practice as a means of reducing maintenance costs, improving the riding qualities of the track and lengthening the life of rail.

COMMUNICATIONS:

Today—1956 . . .

Data processing centers are now a reality with information "pouring in" from all points on a railroad. TV checks freight cars and monitors yard operations. Microwave and carrier expand existing facilities to handle increased volume of communications. Coast-to-coast passenger reservation system inaugurated.

Tomorrow—1966 . . .

Radio on trains and in offices will be as common as the telephone. TV, the "all-seeing eye," will be here to stay. Coast-to-coast car reporting will be in service with interchange of waybill information via electronic and machine processes.

By ROBERT W. McKNIGHT
Associate Editor

Railroad communications departments are entering an era in which they will be called upon to furnish large volumes of information quickly and efficiently for two major uses. One is to feed literally "tons" of information into data processing centers, where electronic computers produce statistics for car accounting and reporting. And the other is for dissemination of information to department heads to aid them in making decisions affecting railroad operations.

This increased information traffic can be handled by expanding existing communications facilities on the railroads. One method is to use carrier ("wired radio") to provide additional circuits on existing line wires. For example, a 12-channel carrier system installed on one wire pair can provide up to 216 two-way printing telegraph circuits. During 1955, the Erie installed a mechanized car reporting system (*Railway Age*, November 28, 1955, page 32), in which additional circuit capacity was obtained by use of carrier on existing railroad-owned line wires. The Chesapeake & Ohio, which is also putting the finishing touches on a system-wide Teletype network (tying offices into a data processing center at Cleveland), made extensive carrier installations on existing line wires. During the next decade, large quantities of carrier equipment will be installed on the railroads to provide more circuits on existing line wires.

This increased use of carrier makes it imperative that pole lines be properly maintained. One railroad which had experienced line wire-breaks due to snow and ice loading in mountainous territory, rebuilt the pole line, using a much heavier than normal wire (copper with a steel core). The result was that they experienced no wire breaks for several winters. Another road which experiences severe winters, the Quebec North Shore & Labrador, built a pole line with only four line wires, each consisting of seven strands of aluminum wire wound on a steel core. The top pair carries a 23,000-volt power line and the bottom pair handles as many as 21 circuits including telephone, printing telegraph and CTC controls. Thus experience shows that breaks due to snow and ice loading on line wires can be overcome or minimized by good pole line construction.

Microwave Proves Itself

Pipeline companies and public utilities have made extensive use of "beamed radio," or microwave, to provide dependable, weatherproof communications. Microwave has been doing the same thing for three years for the Rock Island on 100 miles in western Kansas, and for the Santa Fe on 60 miles between Beaumont and Galveston, Tex. These two microwave systems are providing multi-channel telegraph, printing telegraph and telephone circuits for local and long-distance service.

In 1956 the Southern Pacific will build a microwave link in northern California near Mt. Shasta. The system will replace the present signal and communications pole lines in a heavy snow and wind storm area. Terminal stations will be at Black Butte, Cal., and Dunsmuir with a repeater at Mt. Shasta. The microwave will

handle local and long-distance telephone, printing telegraph and signal control circuits.

The New Haven has made surveys for a proposed microwave system between New York and Boston to replace the existing pole line. Hurricanes in recent years have, no doubt, influenced management thinking about the reliability of pole lines. Rebuilding and maintaining these pole lines is a cost factor which may be offset by installation of microwave.

Long-range microwave transmission without repeater stations is now practicable. The new system, known as "over-the-horizon" communications, utilizes larger, more powerful antennas capable of sending the "radio beam" 200 to 300 miles. Present "line-of-sight" microwave systems require repeater stations every 25 to 30 miles.

Radio's Growth Assured

Railroad radio saves time, money and "shoe leather," and it will continue to be installed on locomotives and in cabooses and offices in large quantities for the next decade. During the past year, several railroads joined the growing ranks of those who have all main-line freight trains radio equipped, as well as all major yards.

In 1955 several railroads completed installation of radio in wayside offices along main lines to provide solid train-to-wayside, two-way communications. These systems also provide emergency communications between offices when line wires are down. The Missouri Pacific, in 1955, added dispatcher controls to existing wayside radio stations to provide train-to-wayside communications during the night when no operators were on duty at these stations (*Railway Age*, October 17, 1955, page 30). The Atlantic Coast Line installed a complete radio system, including dispatcher control of unattended wayside stations, between Waycross, Ga., and Atlanta and Birmingham during 1955 (*Railway Age*, June 20, 1955, page 76). The Nickel Plate will install a similar system this year between Bellevue, Ohio, and Chicago.

On trains, the trend is toward full-power, 30-watt sets on the cabooses and locomotives to provide solid radio coverage end-to-end and train-to-wayside. Walkie-talkie sets are being carried on locomotives and cabooses, too, for auxiliary use by crew members, as when setting out and picking up cars, or when walking along the train looking for a hot box. In 1956 branch line and local freight trains will be equipped with radio to a greater extent than before. Radio will be used more widely in the maintenance-of-way field, being installed on tie tampers, cranes, and welded-rail trains. The Southern Pacific and Santa Fe did so in '55 and will expand the practice in '56. Track motor cars will also be equipped with radio for signal maintainers, communications linemen, track supervisors and track gangs.

Yard radio usage is increasing, not only for communications between yardmasters and switching crews, but also for car checking and car inspection work. Several railroads made such installations last year, as for example, the Elgin, Joliet & Eastern at Kirk yard in Gary, Ind., where car checkers working in the classification yard now check two trains in the time formerly required for one. The checker walks along one track, away from the yard office, calling off car initials and numbers into a walkie-talkie microphone, and returns to the office via another track, checking another train. This car checking information is either recorded or taken down by a clerk in the yard office.

Car inspectors at Kirk yard use radio for coordinating action when setting out blue flags at ends of cars and for quickly calling the car foreman. Such use of walkie-talkies in yards will grow in years to come. Walkie-talkies will be improved, too. Transistors and printed circuits, as well as new techniques in battery manufacture, will provide lightweight heavy-duty, good power sets (up to 10 watts). More superintendents, trainmasters, yardmasters, etc., will have railroad radio in their automobiles so that they can keep informed about what's going on in yard and terminal areas.

Television Sees All

During 1955, the Richmond, Fredericksburg & Potomac installed TV cameras at Potomac yard near Washington, D. C., to "watch" inbound freight trains (*Railway Age*, January 31, 1955, page 15). Pictures are transmitted to the yard office where a clerk "views" car numbers and initials to make up a switch list. This TV car checking system works around the clock with floodlights to provide the proper illumination. In Los Angeles, the Southern Pacific has been staging 24-hr "round the clock" TV tests using different types of cameras, lights, monitors and controls for general yard surveillance. TV will be installed at an SP yard this year.

In 1956 television will undoubtedly be installed at several yards, because, as some estimates have indicated, a complete TV system for a yard, including remote controls for wide-angle and telephoto shots, will offset the expense of building towers at each end of the yard. More tests will also be conducted to determine the value of TV to railroad operations.

"Intercoms" Save Time and Motion

Loudspeaker systems will continue to be installed in yards, offices, freighthouses and passenger stations. A new twist in passenger station systems is in reproducing recorded train announcements. An automatic train announcing system, employing 20 miniature magnetic tape recorders, has been installed in the El Paso, Tex., station by the Southern Pacific (*Railway Age*, September 5, 1955, page 15).

More existing freighthouses will be modernized and brought up to peak efficiency with the installation of centralized checking systems. These systems use loudspeakers or telephones to provide communications between men in the freight cars unloading freight, and clerks in the office with the waybills. Loudspeaker communications will also be installed more extensively in small yards, offices and shops.

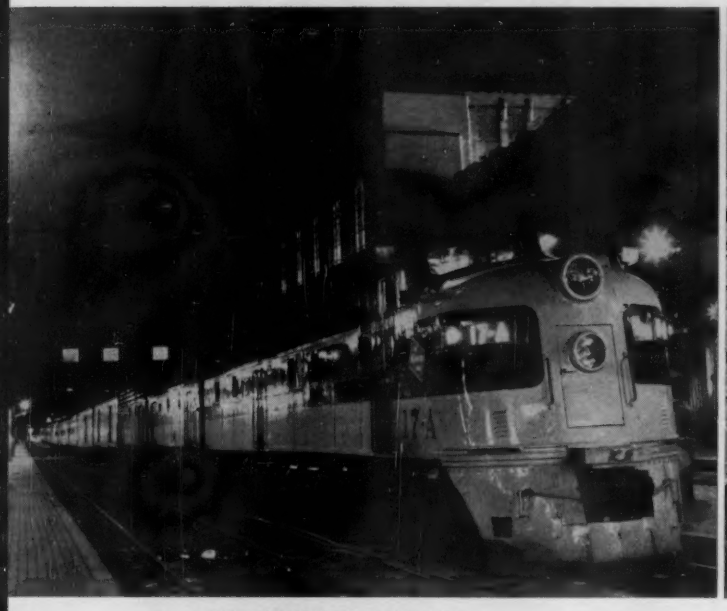
Automatic Telephones Save Time and Money

Several railroads continued to expand their private automatic telephone systems in 1955, among them the Atlantic Coast Line. Automatic dial telephones can be used to coordinate operations in a large terminal area, an example being the Canadian Pacific's installation at Montreal. Last year the Southern Pacific installed an intercity dial telephone system in California, and is extending this intercity dialing to the entire railroad.

Outstanding Headline Events Of 1955

. . . GROWTH with expansion of facilities and construction of lines to attract business, as with the Santa Fe's new main line to Dallas, marked here by opening day ceremonies and President F. G. Gurley's account of efforts to keep pace with progress.

. . . PLANNING such as was accomplished by Baltimore & Ohio President H. E. Simpson (seated center) and Wright Duryea, partner in Glore, Forgan & Co., shown with others who helped develop and complete a plan for refinancing $347 million of B&O securities. It was the biggest of several moves by roads to simplify financial setups.



. . . INTEGRATION of facilities and services such as switchover of Union Pacific train operation between Chicago and Omaha from Chicago & North Western to Milwaukee, with first train run on Milwaukee tracks under new arrangement shown here.

. . . TRAGEDY as freakish rains thrice loosed floods in wild rampages destroying millions of dollars worth of railroad facilities and equipment in the Northeast and Pacific Coast sections, as in this view of a Lackawanna bridge near Stroudsburg, Pa. Restoration and repair had not been completed in many spots by year end despite tremendous rehabilitation efforts. (Fairchild Aerial Surveys Photo)

. . . NEW EQUIPMENT like General Motors "Aerotrain," and other modern, lightweight trains, were ordered, built and tested in campaign to win back passenger business from buses, airplanes and even the family automobile.

84TH CONGRESS
1ST SESSION

S. 1920

IN THE SENATE OF THE UNITED STATES

MAY 9 (legislative day, MAY 2), 1955

Mr. SMATHERS (for himself, Mr. MAGNUSON, and Mr. BRICKER) (by request) introduced the following bill; which was read twice and referred to the Committee on Interstate and Foreign Commerce

A BILL

To amend the Interstate Commerce Act, as amended.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That this Act may be cited as the "Transportation Amendments Act of 1955".

SEC. 2. The national transportation policy preceding section 1 of the Interstate Commerce Act, as amended, is amended to read as follows:

"It is hereby declared to be the national transportation policy of the Congress—

"(1) to provide for and develop, under the free enterprise system of dynamic competition, a strong, effi-

VI

. . . CABINET REPORT. Wrapped up in this bill, or substitute measures, are the hopes of the railroads for relaxation of competitive shackles imposed on common carriers by antiquated regulations. Attacked by trucker and water carrier groups, many of its key features opposed by ICC, it is the product of President's Advisory (Cabinet) Committee on Transport Policy and Organization.

. . . PROGRESS in operations like piggybacking which—the way cleared by ICC sanction—began to live up to early promise as roads went ahead with experiments to determine most efficient ways to blend truck flexibility with railroad dependability.

. . . ONLY MAJOR STRIKE was on Louisville & Nashville, whose general solicitor, P. F. Osborne, left, concluded agreement with G. E. Leighty, Railway Labor Executives' chairman, before Mediation Board's F. A. O'Neill and R. O. Boyd.

A REVIEW OF

1955 Railway Operations

By J. ELMER MONROE
Vice-President, Association of American Railroads, and Director Bureau of Railway Economics

The Year as a Whole

THE PLUS SIDE . . .

For the most part, statistics of railway operations in 1955 make good reading.

- Freight traffic rebounded sharply from the 1954 low, with indications at the year's end pointing to a continuation of favorable trends well into 1956.
- Net earnings in 1955, while falling short of levels generally attained by other industries, showed marked improvement over the highly unsatisfactory results of the preceding year and just about equalled earnings of the best postwar years.
- The railroads' working capital position was materially strengthened during the year.
- A number of new records were established in freight train performance averages.
- Finally, stepped-up maintenance expenditures and a flood of freight car orders in the last few months of the year gave new impetus to the program to expand the capacity of railroad facilities.

An important and constructive development in 1955 was the release in April of the long-awaited findings of the Presidential Advisory Committee on Transport Policy and Organization, generally referred to as the Cabinet Committee report. While no action was taken by the Congress in 1955 on any of the recommendations, the entire report, and especially the proposed changes in transportation regulatory measures, received widespread circulation; the pros and cons are currently being vigorously debated in many areas. Thus the report has served to focus attention upon existing weaknesses of national transportation policy, particularly in respect to competition among the several modes of transportation.

Upon petition by the railroads, the Interstate Commerce Commission in October 1955 canceled the expiration date long attached to the Ex Parte 175 freight rate increases and authorized incorporation of those increases into the basic freight rate structure. This constructive step, coming more than three years after the original authorization by the commission, freed some $900 million of annual railroad revenues from the uncertainty surrounding periodic review of the rates.

THE MINUS SIDE . . .

On the disturbing side, the year 1955 witnessed another round of wage and price increases.

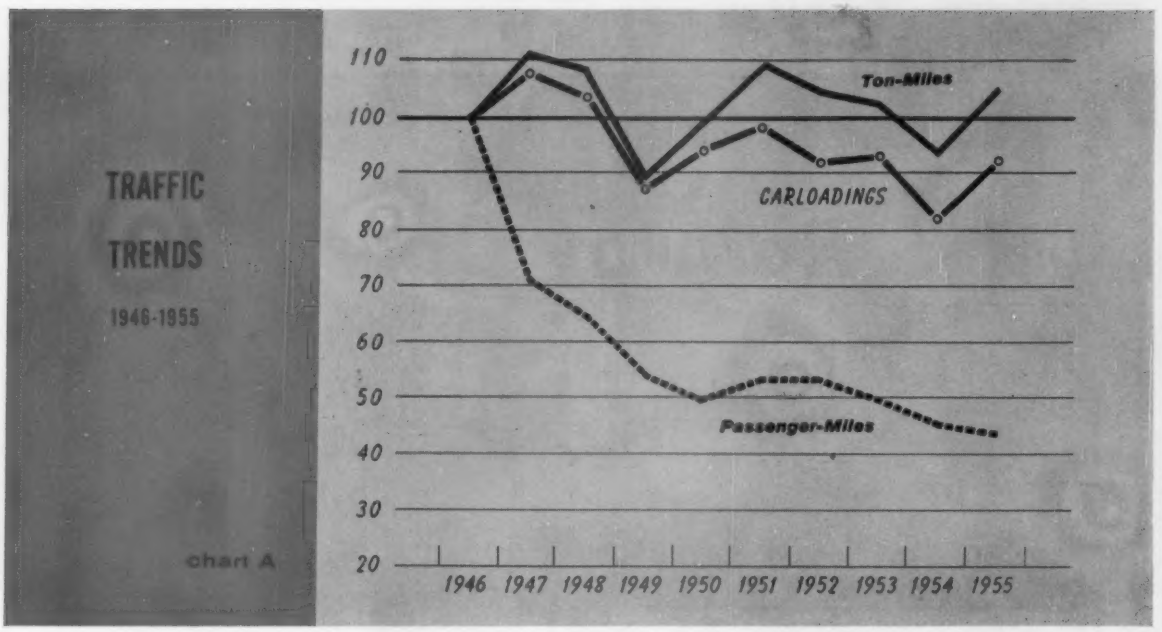
- New wage contracts were signed with railroad labor organizations calling for substantial increases in employee wage rates.
- At the same time, following wage increases in other industries, prices paid by the railroads for fuel, material and supplies used in daily operations advanced to new all-time highs.
- On January 1, 1956, the unemployment insurance payroll tax rate paid by the railroads was increased from 0.5 per cent of taxable payroll to 1.5 per cent. These new cost increases, together with increased expenditures for maintenance work, will have a material effect on railroad net earnings in 1956.

Diversion of rail traffic to government-favored agencies of transport continued unabated in 1955, although the trend was somewhat obscured by the resurgence of freight traffic resulting from improved economic conditions. Carriers by highway, airway, and waterway—recipients of government aids in one form or another—each enjoyed greater relative increases in freight traffic than did the railroads. Air lines scored another spectacular increase in passenger traffic in 1955 compared with a decrease in travel by railroad. The Post Office Department continued its policy of diverting mail to air and highway carriers.

Performance

TRAFFIC TRENDS

Responding to upward trends in the nation's economy, freight traffic of the railroads recovered in 1955 from the recession level of 1954. Indices of general economic ac-



tivity moved to new all-time record highs, while railroad freight ton-miles exceeded the levels of 1952-1953 but remained about 5 per cent below peak postwar years. Passenger traffic, for the fourth successive year, declined.

Revenue ton-miles, a measure of traffic according to both tonnage handled and distance hauled, are expected to approximate 620 billion in 1955, up 13 per cent from 1954, and slightly above the levels of 1952 and 1953. Ton-miles during each month of 1955 in fact showed consistent increases over the corresponding months of 1954. The spread between the traffic levels of the two years widened in the late summer, then narrowed in the closing months.

Revenue passenger-miles, which in 1953 and again in 1954 had dropped by about 7 per cent from the volume of the preceding year, tended to level off in 1955. The year's total of 28.5 billion passenger-miles, however, was 2.7 per cent below that of 1954 and constituted the smallest volume of passenger traffic handled by the railroads since prewar 1940. Final statistics of all intercity passenger travel in 1955 will undoubtedly show that an increasing proportion of the American traveling public has found the speed of the air lines or the convenience and flexibility of the private automobile more attractive than the safety, comfort and dependability of the railroads.

Table 1—Comparative Traffic Summary

1946-1955 Year	Revenue ton-miles (millions)	Revenue passenger-miles (millions)	Revenue carloadings (thousands)
1946	591,982	64,673	41,341
1947	654,728	45,921	44,502
1948	637,917	41,179	42,719
1949	526,500	35,095	35,911
1950	588,578	31,760	38,903
1951	646,620	34,614	40,499
1952	614,754	34,010	37,985
1953	605,813	31,655	38,216
1954	549,259	29,286	33,915
1955*	620,000	28,500	37,800

*Partially estimated

Table 2—Carloadings by Commodity Groups

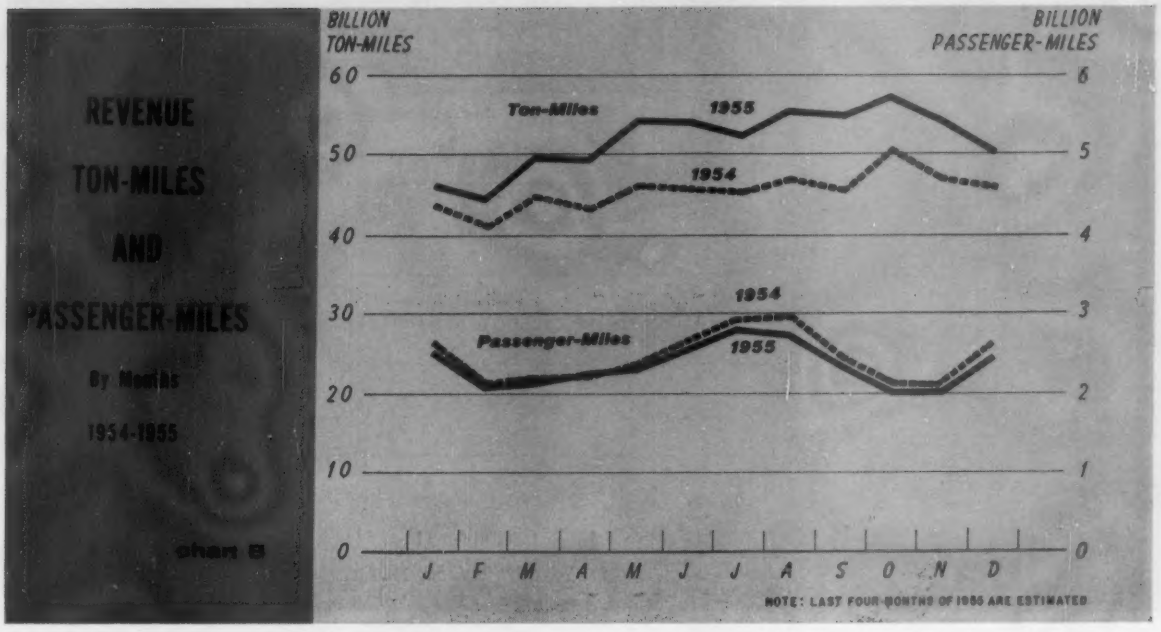
(1955 vs. 1954) Commodity Group	Per cent of group to total	1955 carloads (thousands)	Increase over 1954 Carloads (thousands)	Per cent
Miscellaneous	50.6	19,135	1,700	9.8
Coal	17.5	6,640	971	17.1
Merchandise LCL	8.5	3,235	48	1.5
Ore	7.6	2,875	761	36.0
Grain	7.0	2,630	76	3.0
Forest products	6.0	2,263	177	8.5
Coke	1.6	615	193	45.7
Livestock	1.2	447	....	....
Total	100.0	37,840	3,926	11.6

Carloadings of revenue freight in the 52 weeks of 1955 approximated 37.8 million cars. This total was about 3.9 million cars, or 11.6 per cent, above the loadings of 1954 and 1.9 million above the total in 1949, but less than the loadings in any other year since 1940.

Seven of the eight commodity groups showed increases over loadings of the previous year. The largest category, miscellaneous freight, consisting chiefly of manufactured goods and accounting for more than half of total loadings, was up nearly 10 per cent. Coal, next in volume, representing about one-sixth of the total, rose by 17 per cent.

Loadings of less carload freight, reversing a trend which had been steadily downward since 1946, increased by about 1.5 per cent. Ore loadings advanced by more than one-third over the severely depressed level of 1954. Grain was up 3 per cent and forest products 8 per cent. Coke loadings, while only 1.6 per cent of the total, showed the sharpest rise, 46 per cent. Livestock loadings were about equal to those of 1954.

"Piggyback" service, the movement of highway



trailers on flat cars, developed rapidly in 1955 and offered renewed hope of restoring to the rails a substantial portion of traffic now burdening the highways. Railroads that had entered this field in 1954 experienced expanding volume in 1955, and many other railroads inaugurated similar services. The peak in "piggyback" traffic in 1955 occurred in the week ended October 15, when 4,318 flat cars were loaded with trailers on 30 railroads, more than double the 2,148 carloads reported by 17 railroads in the corresponding week of 1954.

RATES AND FARES

There were no general changes in freight rates, passenger fares, mail pay rates, or express rates in 1955, although the year witnessed its normal quota of adjustments in individual freight rates and continued experimentation with reduced passenger fares.

Owing to selective downward adjustments made in freight rates to meet particular competitive situations, as well as to changes in consist of traffic and other causes, average freight revenue per ton-mile declined from 1.42 cents in 1954 to 1.37 cents in the first 9 months of 1955.

Table 3—Revenue Per Unit of Traffic

(1946-1955) Year	Per ton-mile (cents)	Per passenger-mile (cents)
1946	0.978	1.947
1947	1.076	2.097
1948	1.251	2.341
1949	1.339	2.452
1950	1.329	2.561
1951	1.336	2.601
1952	1.430	2.664
1953	1.478	2.660
1954	1.420	2.619
1955 (9 mos)	1.374	2.592

Table 4—Employees and Their Compensation

Year	Average number of employees	Total payroll (millions)	Average annual earnings of employees	Average straight time hourly Rate	Earnings
1940	1,026,956	$1,964	$1,913	$0.74	$0.77
1945	1,420,266	3,860	2,718	0.93	0.97
1950a	1,220,784	4,621	3,785	1.58	1.65
1951a	1,276,000	5,336	4,182	1.76	1.84
1952a	1,226,663	5,338	4,352	1.84	1.94
1953	1,206,312	5,326	4,415	1.89	1.99
1954	1,064,705	4,855	4,560	1.94	2.05
1955b	1,056,000	4,970	4,700	1.96	2.07

a Includes retroactive wage increases paid in subsequent years.
b Estimated.

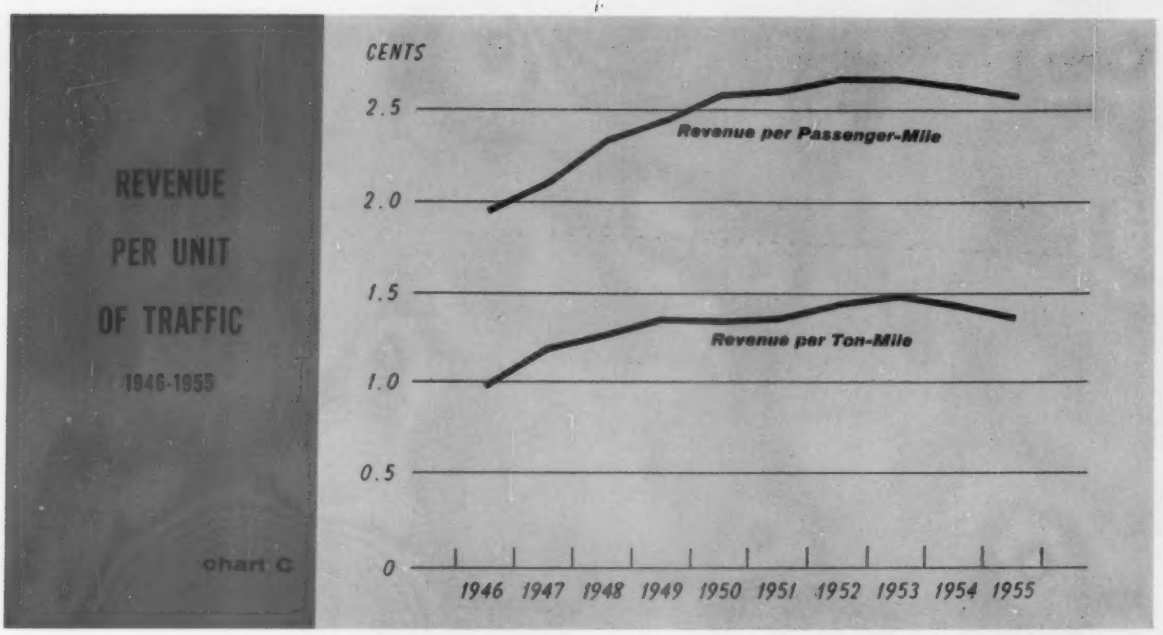
Revenue per ton-mile in 1955 was about 3 per cent below the 1954 average and 7 per cent below that of 1953. As a consequence, the recovery in freight revenues in 1955 over 1954 was relatively less than the recovery in freight traffic.

Revenue per passenger-mile also declined fractionally in 1955, following the downward trend of the two previous years. The average of 2.592 cents experienced in the first 9 months of 1955 was 2.7 per cent below the average of 1952. The decline has been caused both by selective fare reductions designed to attract additional traffic and by changes in consist of traffic; travel in parlor and sleeping cars continued to fall off at a faster rate than did the lower-fare coach travel.

EMPLOYMENT AND WAGES

Railroads paid their employees in 1955 a total of $4,970 million, 2.4 per cent more than in 1954. The 1955 payroll was paid to an average of 1,056,000 employees, which was about 9,000 fewer than in 1954.

Annual earnings per employee averaged $4,700 in



1955, or 3.1 per cent more than the average of $4,560 in the preceding year. The 1955 average was 72.9 per cent higher than that of 1945, and about 2½ times the 1940 prewar average.

The average straight-time rate of pay of railroad employees stood at $1.96 in 1955, about 1.0 per cent above that of the preceding year. It was more than twice as great as the 1945 rate and nearly 2 2/3 times that of 1940.

Virtually all employee groups were affected by wage settlements in 1955 or had pending wage demands which were unsettled at the year's end.

Conductors' Graduated Rates. At the beginning of 1955, hearings were being held before an emergency board created in late 1954 to investigate and make recommendations in the Conductors' graduated rates dispute. The Conductors were demanding that graduated rates of pay be established for all classes of service based on weight on drivers of locomotives handling the trains. A similar demand had been considered and rejected by the McDonough emergency board in 1950.

Hearings before the emergency board were concluded on February 24, 1955, and on March 25 the board made its report in which it rejected the Conductors' proposal. The board suggested forming a commission to review the internal wage structure in operating classifications and recommended that the parties negotiate to correct an inequity found to exist in the average basic daily rates of pay of conductors in through freight service.

Subsequent to the issuance of the board's report, conferences between the railroad committees and the Conductors were resumed, and on May 26, 1955, a settlement was reached. It provided, effective June 16, for a wage increase of 20 cents per day (2½ cents per hour) in the basic rates of both passenger and freight conductors. Furthermore, the latter receive an even higher rate for trains of 81 to 105 cars, and a rate further scaled upward for longer trains.

Trainmen's and Switchmen's Demands. Under the terms of collective bargaining agreements with the Switchmen on May 11, 1955, and with the Trainmen on May 11 and 26, 1955, the proposals for increasing yard conductors' differentials and for wage increases to correct so-called "inequities" resulting from the increased length of trains in road service were settled. The Trainmen's agreements provided benefits identical to those contained in the May 26, 1955, agreement with the Conductors. Both the Switchmen's and Trainmen's agreements provided that the differential between the basic daily rates of yard conductors and yard brakemen be increased from 85 cents to $1.10 per day, effective from June 1, 1955.

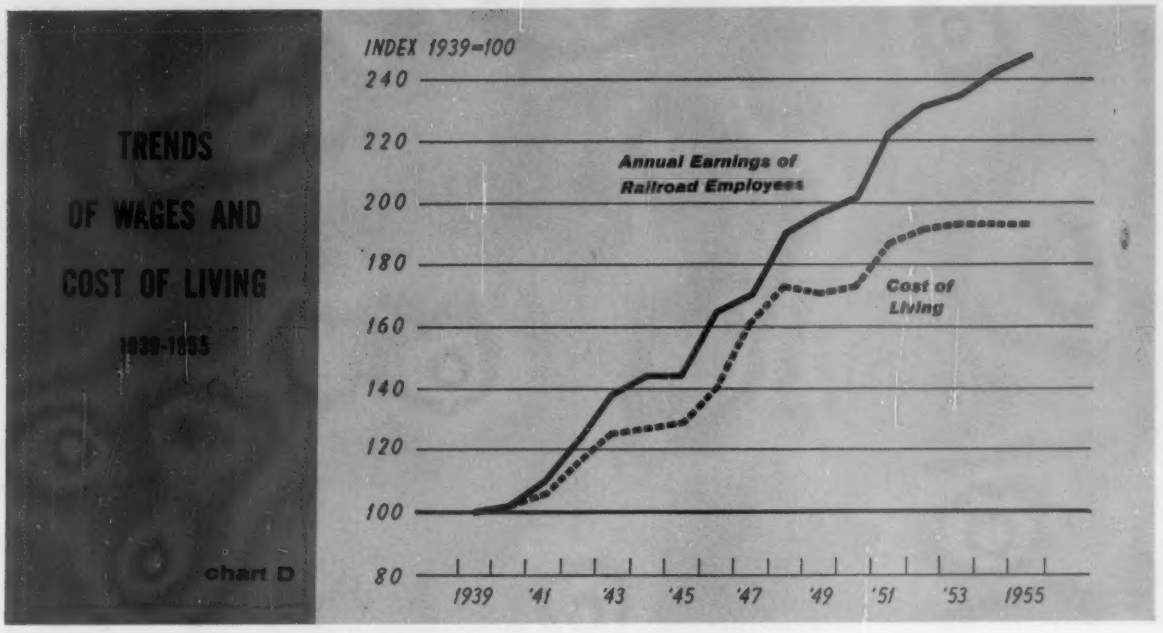
That portion of the 1954 demands of both organizations for further increases in basic rates of yardmen in connection with adoption of a five-day workweek was held open for further negotiation.

Firemen's 1954 Demands Settled. On June 17, 1955, an emergency board was created to investigate and make recommendations with regard to the Firemen's demands served July 1, 1954. The demands called for the establishment of a minimum guarantee of $18.00 per day for firemen in road service and a further increase of $2.24 per day in yard service when yard service employees elect to adopt a five-day workweek.

In a report rendered July 30, 1955, the board recommended that rates of pay of yard firemen, upon conversion to a five-day workweek, be increased by an amount equal to 20 per cent of the rate in effect in September 1948, minus the 14½ cents per hour the board calculated the yard firemen had already received as a prepayment for the five-day workweek. The board recommended withdrawal of the guarantee proposals.

Settlement was consummated by an agreement dated October 14, 1955; its provisions are set forth in the discussion below of operating employees' settlements.

Health and Welfare Plan for "Non-ops." By agree-



ment dated August 21, 1954, the railroads and representatives of the non-operating organizations adopted in principle a health and welfare plan recommended by an emergency board May 15, 1954. Final agreement was consummated on January 18, 1955, when the carriers and employees signed a hospital, surgical and medical insurance contract. On railroads where hospital associations do not exist, the employees are insured under a policy contract with the Travelers Insurance Company.

The agreement for such a health and welfare plan provided that the total cost of $6.80 per month per worker would be shared equally by the employee and the railroad. On April 2, 1955, however, the non-operating employees proposed that the carriers pay the entire cost. On December 12, 1955, an emergency board recommended acceptance of this proposal.

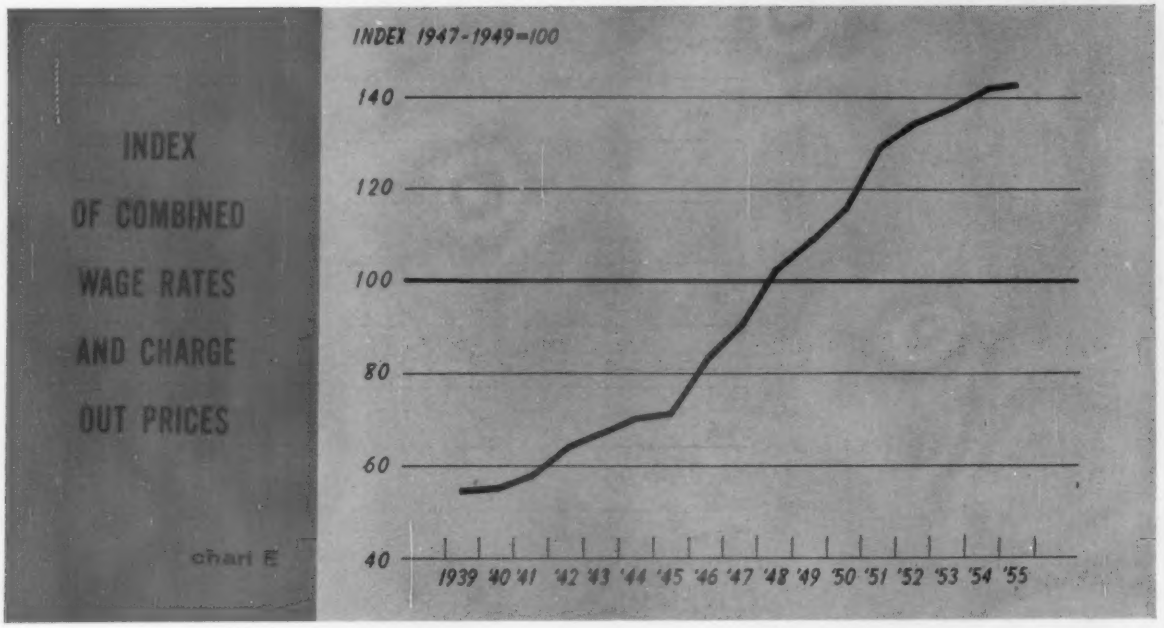
Benefits provided under the contract with Travelers include payment for semiprivate hospital room and board for a maximum of 120 days, plus hospital charges for medical care up to $500, plus 75 per cent of the excess over $500. Surgical fees up to a maximum of $300 are paid. Physician's charges for visits for treatment at hospital or home, with certain maximums, are paid, as well as X-ray or laboratory examinations. These, and other benefits, became available from March 1, 1955.

The 1955 Operating Employees' Wage Movement. On February 15, 1955, the Engineers served a demand for a 22½ per cent differential increase—a request identical to that denied by an arbitration award in August 1954. Notices were served by the Trainmen on June 16 requesting a general wage increase of $2.50 per basic day, and the Conductors served notices on August 15 demanding a general wage increase of $3.00 per basic day in passenger service and $2.00 per basic day in freight service. At that time the 1954 Firemen's demands were being investigated. The disputes with the Trainmen, Firemen and Engineers were finally settled by a series of agreements entered into in October 1955.

a. Trainmen: The first of these collective bargaining agreements was made with the Trainmen under date of October 4, 1955. It provided for (1) a general wage increase effective October 1, totaling 10½ cents per hour, including 4 cents in lieu of a health and welfare plan; (2) an increase in the guaranteed daily earnings minima in passenger service and in local and mine run service; (3) an increase of $30 per month (including $8.20 in lieu of a health and welfare plan) for dining car stewards represented by the Trainmen; (4) an increase of $21 per month (including $8.00 in lieu of a health and welfare plan) for yardmasters represented by the Trainmen; (5) the establishment of a five-day workweek on December 1, 1955, for all yardmen represented by the Trainmen, with adjustment in hourly rates according to the same formula prescribed for yard firemen; and (6) a moratorium on rules changes until June 30, 1956. The switchmen were granted the same provisions applicable to yardmen by contract dated October 10, 1955.

b. Firemen: The Firemen's agreement, dated October 14, provided that road firemen receive an increase of 8 cents an hour, effective from October 1, 1955, four cents of which was in lieu of the offer of the carriers for a health and welfare plan. It also provided for an increase in the guaranteed daily earnings minima applicable to firemen in passenger service and for firemen in local and mine run service. Yard firemen and hostlers were granted a wage increase of 4½ cents an hour, 4 cents of which was in lieu of a health and welfare plan; when the five-day workweek is adopted by yard firemen and hostlers, however, they will receive an additional wage increase of 8½ cents an hour, together with a 40-hour week conversion pay increase averaging about 12½ cents an hour.

c. Engineers: Representatives of the railroads and the Engineers reached their agreement on October 27, 1955. It provided for a general wage increase of 5 per cent in basic daily rates, together with an additional 2 per cent



increase "as an adjustment of differential inequities between locomotive engineers and employees in other classes of railroad service." The wage increases became effective October 1. If the Engineers move for a carrier-financed health and welfare plan, the agreement provides that up to 4 cents an hour will be credited against the 5 per cent increase. The Engineers' settlement also provided for establishment of a five-day workweek for yard engineers, if requested, on the same basis as for other yard operating employees.

d. Conductors: Representatives of the railroads and the Conductors reached an agreement December 21, 1955, providing for a general wage increase in basic rates of 10½ cents per hour plus an additional 2 per cent increase in basic rates for road conductors. The contract specifies that if the Conductors move for a carrier-financed health and welfare plan up to 4 cents per hour of the general wage increase will be converted for payment of such health and welfare costs.

The 1955 "Non-op" Wage Movement. On August 1, 1955, the non-operating organizations filed demands for a wage increase of 25 cents per hour, coupled with their demand of April 2, 1955, that the carriers pay the entire cost of the health and welfare plan.

Negotiations and mediation in these two disputes did not result in agreement, and on November 7, 1955, an emergency board was created to investigate and make recommendations. On December 12, 1955, the board recommended a general across-the-board wage increase of 14½ cents an hour effective from December 1, 1955, and that effective March 1, 1956, the carriers pay the full cost of the health and welfare plan for non-operating employees (an additional cost to the carriers equivalent to a wage increase of about two cents an hour) except that those dining car cooks and waiters represented by the Hotel and Restaurant Employees and Bartenders International Union should receive a wage increase of 13½ cents an hour, of which 4 cents would be in lieu of a carrier-financed health and welfare plan. Recommendations of the board were adopted by the parties in an agreement dated December 21, 1955.

Pending settlement at the year's end were wage disputes with the American Train Dispatchers Association and organizations representing yardmasters, all of whom had served proposals upon the carriers for substantial wage increases earlier in the year.

MATERIAL PRICES AND WAGES

Because 63 per cent of railroad operating expenses goes for wages and 27 per cent for materials and supplies, changes in wage rates and material prices are important factors in determining results of railroad operations. Increases in these unit costs in 1955 continued to exert pressures on the railroads' narrow profit margin.

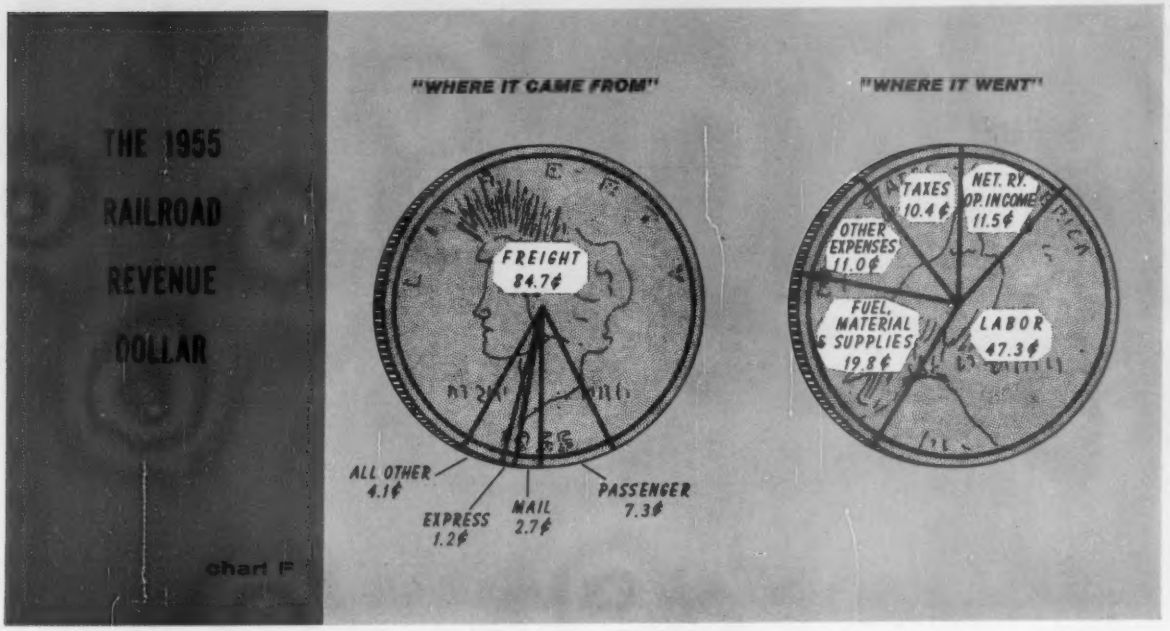
As has been pointed out, wage rates rose about one per cent in 1955. Material prices fluctuated within a narrow range in the first six months, then rose sharply in the third quarter to a point 30.2 per cent above the 1947-1949 average.

The October 1955 index of 130.2 compares with an

Table 5—Railway Material Price Index

(Mid-year 1947-1949 = 100)

Month	Materials and supplies (other than fuel)	Fuel (coal and oil)	All materials including fuel
December 1939	55.5	47.5	52.6
December 1945	72.1	69.3	71.1
October 1953	131.1	111.8	123.8
October 1954	132.8	109.1	123.9
January 1955	133.4	111.1	125.1
April 1955	135.2	110.8	126.2
July 1955	135.4	109.2	125.8
October 1955	141.6	110.1	130.2



index of 123.9 in October 1954. Thus, there was a rise of 6.3 points in the index, which reflected an average increase of 5.1 per cent during the 12-month period in prices of railroad fuel, materials and supplies. An important factor in this increase was the advance in steel prices which occurred in July.

In Table 6 the "spot" prices shown in Table 5 have been converted to an annual "chargeout" price index, reflecting original purchase price of materials consumed during the year, and this index in turn has been combined with the index of wage rates to provide an overall gage of the trend of railroad unit costs. The combined index for 1955 stood at about 142.6 per cent of the 1947-1949 average, up one per cent over 1954. Because of the lag between time of purchase and time of consumption, the chargeout index for 1955 reflects only partially the price increases which actually occurred during the year.

FINANCIAL RESULTS

Financial results of railroad operations in 1955 were considerably improved over the severely reduced results of 1954. A moderate rise in gross revenues, the continuation of expense controls placed in effect in 1954, and an increase in income tax deferrals, resulted in net earnings which compared favorably with the better postwar years. Net income, showing the temporary benefits of such reduced maintenance and increased tax deferrals, is estimated to have reached a new dollar high. With a rate of return for the year 1955 presently estimated at about 4.15 per cent, however, railroad earnings lagged far behind the more satisfactory showings of other industries.

As shown by Table 7, operating revenues in the first ten months of 1955 amounted to $8,374 million, an increase of $594 million, or 7.6 per cent, over the corresponding period of 1954, but $643 million below the like ten months of 1953. Operating expenses in ten months of 1955 totalled $6,294 million, only $135 million above the comparable 1954 period and $487 million below the 1953 period. Thus, the operating ratio was reduced to 75.16 per cent, as compared with 79.16 per cent and 75.21 per cent in like periods of 1954 and 1953.

After tax accruals of $923 million and payment of operating rents, net railway operating income for the first ten months of 1955 totalled $947 million, an increase of $275 million over that of 1954's first ten months, and within $6 million of the $953 million earned in the first

Table 6—Material Prices and Wage Rates

(Average 1947-1949 = 100)

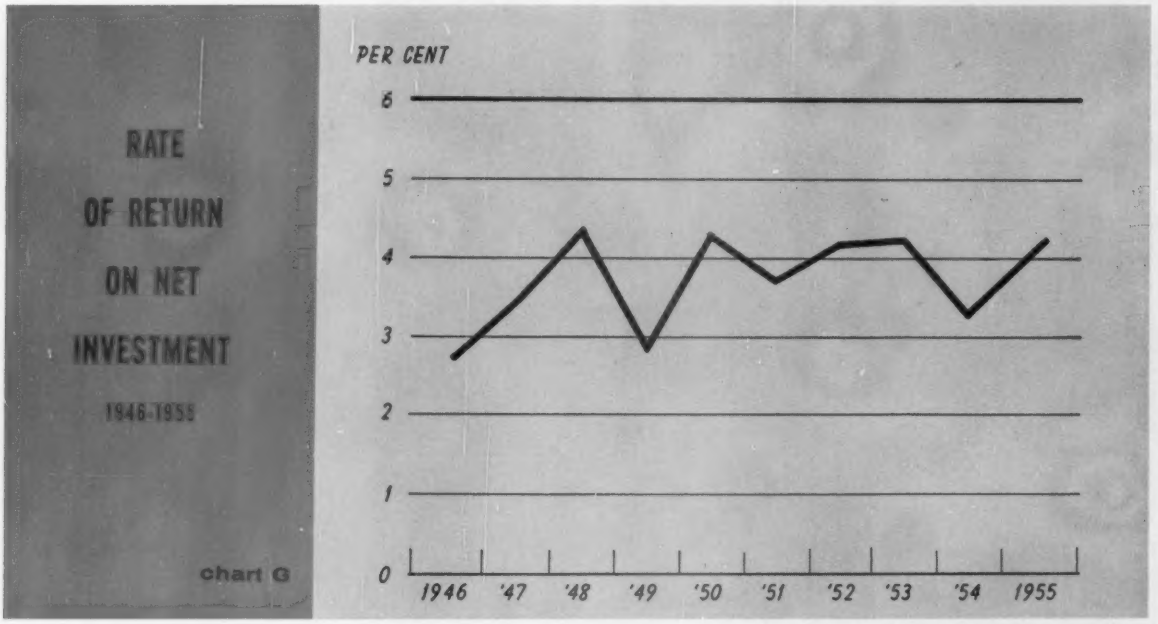
Year	Chargeout prices for all materials including fuel	Wage rates (all employees)	Material prices and wage rates combined
1939	52.0	56.5	55.2
1945	69.3	71.2	70.6
1949	106.4	110.0	108.9
1950	105.7	120.5	116.1
1951	117.5	134.1	129.1
1952	119.1	140.8	134.3
1953	122.0	144.2	137.5
1954	124.2	148.4	141.1
1955 (est)	126.1	149.6	142.6

Table 7—Condensed Income Account

Ten Months, 1953-1955

	1953 (millions)	1954 (millions)	1955 (millions)
Total operating revenues	$9,017	$7,780	$8,374
Total operating expenses	6,781	6,159	6,294
Operating ratio (per cent)	75.21	79.16	75.16
Taxes	$1,086	$ 740	$ 923
Net railway operating income	953	672	947
Rate earned (per cent)*	4.19	3.28	4.15
Net income after charges	$ 739	$ 484	$ 753

*Rate of return on net investment for full calendar year (1955 estimated)



ten months of 1953. Tax credits, representing deferral of income taxes through accelerated amortization of defense facilities, reduced 1955 taxes and increased 1955 earnings by some $40 million more than did similar credits in 1953 and in 1954. Net income, which also was benefitted by increased tax deferrals, approximated $753 million, up $269 million over the first ten months of 1954 and $14 million above the net of the 1953 period.

For the full year 1955 the rate of return on net investment is estimated at 4.15 per cent, compared with 3.28 per cent in 1954 and 4.19 per cent in 1953.

Analysis of operating revenues (Table 8) emphasizes the relative importance of freight service, which accounted for 85 per cent of gross revenues in 1955. The overall increase in revenues of $594 million in the first ten months, 1955 over 1954, resulted from increases of $612 million in freight revenue, $3 million in net revenues received from express service and $28 million in miscellaneous revenues. These gains were partially offset by losses of $26 million in passenger revenue and $23 million in mail revenue.

Because of the decline in average revenue per ton-mile, the increase in freight revenue was only about seven-tenths as great, percentagewise, as the increase in ton-miles. Similarly, passenger revenue was down relatively a little more than passenger-miles, and the contribution of passenger revenue dropped from 8.2 per cent of gross in 1954 to 7.3 per cent of the ten-month total in 1955.

The greatest relative change occurred in mail revenue, down by $23 million, or 9.0 per cent; representing a decline from 3.2 per cent of gross in ten months of 1954 to 2.7 per cent of gross in the like period of 1955. Excluding about $8 million in retroactive mail pay received in 1954 but applicable to service performed in 1953, the drop in mail revenue, 1955 under 1954, was about $15 million, or 6.2 per cent.

To a large extent the improved showing of the 1955 income account was due to continuation of operating economies instituted in 1954 to keep within the bounds of shrinking revenues. As shown by Table 9, transportation expenses increased by only 2.7 per cent in the first ten months, 1955 over 1954, while maintenance expenses were up only 1.7 per cent. Actual maintenance charges, excluding depreciation and retirements, were up only $31 million, or 1.5 per cent, over 1954 and were $372 million, or 14.6 per cent, below such expenditures in the corresponding months of 1953. How much of this reduction under the level of maintenance expenditures in 1953 represents a real saving in maintenance costs and how much represents deferral of inevitable expenditures cannot be determined.

Net railway operating income for 1955 shown in Table 10 is an estimate for the full year. The total of $1,110

Table 8—Operating Revenues

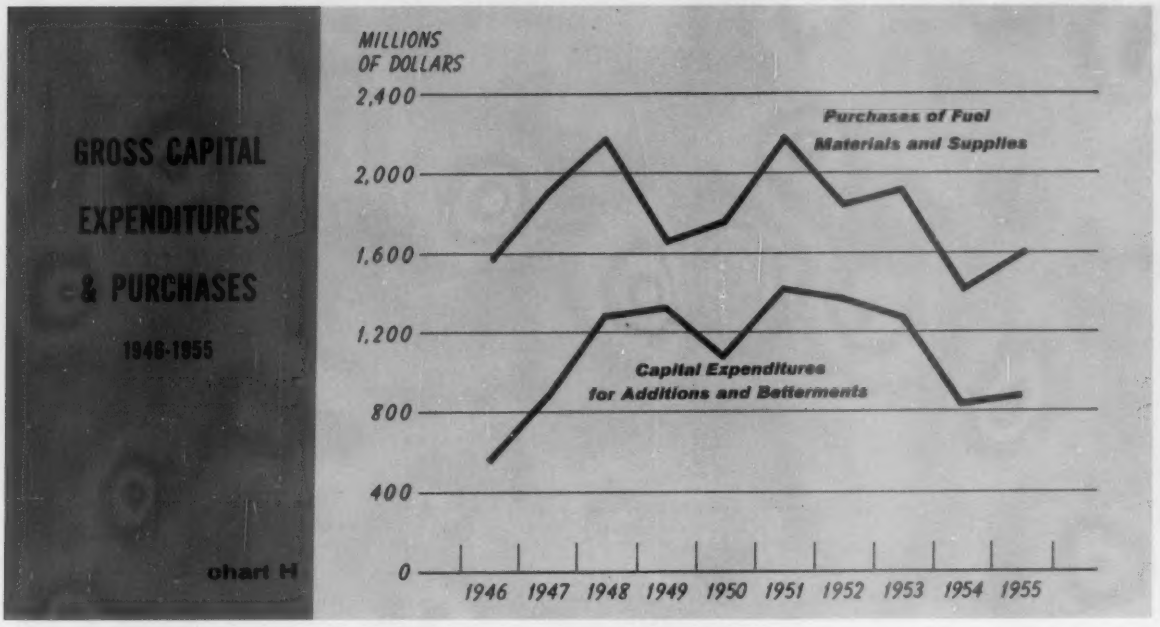
Ten Months, 1953-1955

	1953 (millions)	1954 (millions)	1955 (millions)
Freight	$7,588	$6,476	$7,088
Passenger	706	641	615
Mail	250	250	227
Express	109	93	96
All other	364	320	348
Total	$9,017	$7,780	$8,374

Table 9—Operating Expenses

Ten months, 1953-1955

	1953 (millions)	1954 (millions)	1955 (millions)
Maintenance of Way	$1,322	$1,134	$1,151
Maintenance of Equipment	1,652	1,450	1,478
Transportation	3,233	3,009	3,090
Traffic, general & other	574	566	575
Total	$6,781	$6,159	$6,294



million, if realized, will provide a return of 4.15 per cent on the carriers' net investment of about $26.7 billion, slightly above the average return of the years since World War II. Inadequacy of railroad earnings in the postwar period is emphasized by the fact that the estimated net railway operating income of $1,110 million in 1955 is the highest for any peacetime year since 1929, when the railroads earned $1,252 million, or 5.30 per cent, on an investment that was $3 billion less than that of 1955, and at a time when the railroad dollar would buy almost twice what it will today.

In comparing railroad earnings in recent years with those of other industries or with railroad earnings in other years it is significant to note the effect of amortization accounting on such current railroad earnings. Under the accounting rules of the Interstate Commerce Commission charges for accelerated amortization of defense facilities, allowed for tax purposes, may not be included in operating expenses, although the tax credits (tax deferrals) resulting from such charges in tax returns must be included as current earnings. These tax deferrals, which represent liabilities against future earnings, amounted to about $41 million in 1951, $98 million in 1952, $146 million in 1953, $149 million in 1954 and an estimated $187 million in 1955. Excluding tax deferrals, net railway operating income in 1955 was about $923 million, and the rate of return approximated 3.5 per cent.

In the ten postwar years, 1946-1955, the rate of return on investment has averaged only 3.73 per cent, including tax deferrals. As compared with the "fair return" of six per cent long sought by the railroads, there has been a deficiency of $561 million annually, or a total of $5.6 billion for the ten-year period as a whole.

Table 10—Rate of Return

1946-1955

Year	Net railway operating income (millions)	Rate of return on investment after depreciation
1946	$ 620	2.75%
1947	781	3.44
1948	1,002	4.31
1949	686	2.88
1950	1,040	4.28
1951	943a	3.76a
1952	1,078a	4.16a
1953	1,109a	4.19a
1954	874a	3.28a
1955 (est.)	1,110a	4.15a

aIncludes tax credits (deferrals) resulting from amortization of defense facilities. (see text)

Table 11—Capital Expenditures and Purchases

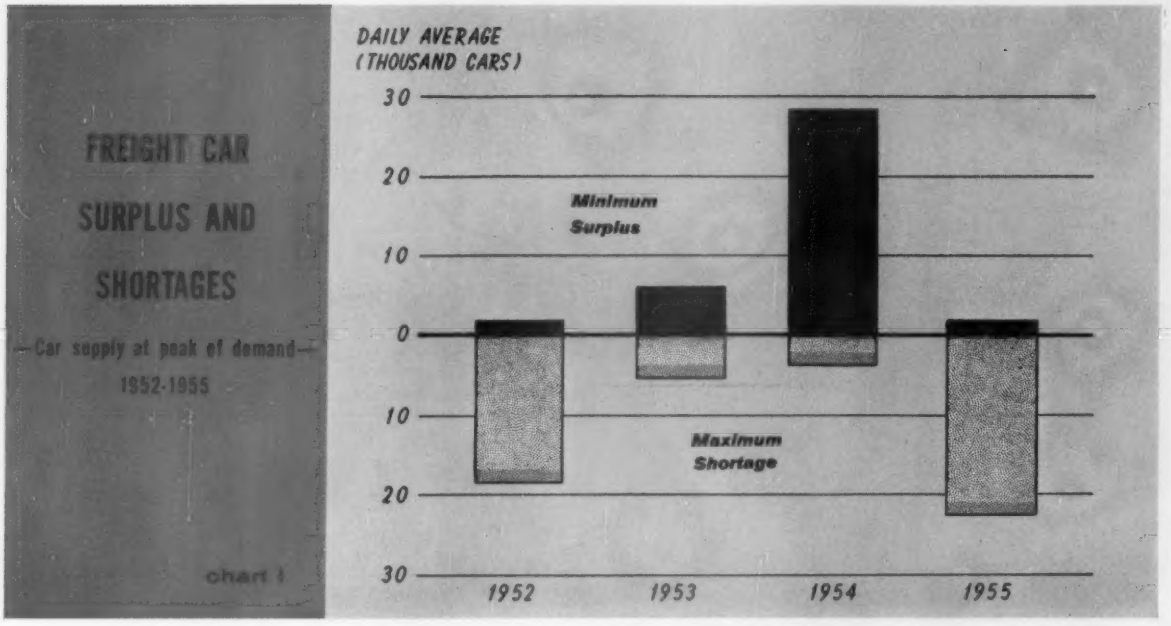
1946-1955

Year	Gross capital expenditures (thousands)	Purchases of fuel, materials and supplies (thousands)
1946	$ 561,957	$1,570,555
1947	864,689	1,909,209
1948	1,273,484	2,183,331
1949	1,312,200	1,641,406
1950	1,065,842	1,739,908
1951	1,413,995	2,175,859
1952	1,340,912	1,817,750
1953	1,259,797	1,920,481
1954	820,246	1,424,761
1955 (est.)	890,000	1,650,000

EXPENDITURES AND PURCHASES

Among the effects of depressed railroad earnings in 1954 were the sharp cuts required in capital improvement work and in purchases of materials and supplies both for improvements and for daily operations. Some curtailment of such expenditures was inevitably carried over into 1955.

Capital expenditures for additions and betterments in 1955 are estimated at about $890 million, up $70 million



over 1954, but still 29 per cent below the $1,260 million spent in 1953 and 19 per cent below the $1,101 million annual average of other postwar years. Significantly, the trend in such spending in 1955 was upward—$506 million in the last half against $384 million in the first half—a trend which may be expected to continue into 1956 and carry the total well over the one billion dollar mark in the year ahead. In 1955, about 64 per cent of these expenditures were allocated to equipment while the remaining 36 per cent went for improvements to roadway and structures. This division of expenditures compares with averages of 70 per cent and 30 per cent, respectively, for the previous nine postwar years.

Purchases of fuel, materials and supplies revived somewhat in 1955 after the greatly reduced spending in 1954. The 1955 total of somewhat over $1½ billion, however, was still far below average and should be substantially exceeded in 1956.

Equipment

CARS AND MOTIVE POWER

Freight Cars: Outstanding among railroad problems in 1955 was the return of freight car shortages, brought about by a combination of rising car demand and shrinking car supply. Continuing a trend which began in February 1954, when freight car ownership began to recede from a postwar high of 1,777,000 cars, freight car retirements exceeded installations in each of the first eleven months of 1955, leaving ownership on December 1, 1955, at 1,700,000 cars, the lowest level since 1942. Meanwhile carloadings, which began the year 1955 at close to the 1954 level, increased both seasonally and relatively. By midyear, freight car surpluses had virtually disappeared and shortages of troublesome proportions existed.

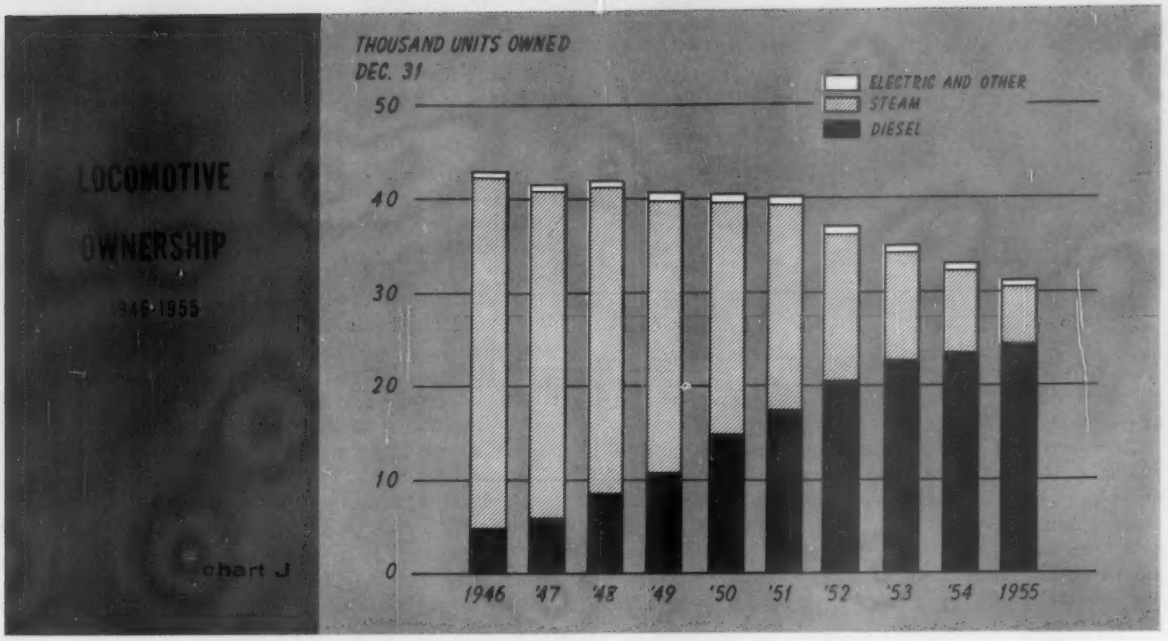
Reasons for the unsatisfactory car supply were readily apparent. Because of low demand, low earnings and a heavy burden of equipment debt, railroads in 1954 all but ceased placing orders for new freight cars and entered 1955 with less than 14,000 new cars on order. Their financial problems were further complicated and long range commitments made difficult by the temporary nature of Ex Parte 175 freight rate increases, which were due to expire at the end of 1955 with the possible annual loss of some $900 million of freight revenue. Forced economies and relatively low car demand also resulted in deferment of car repairs, and the number of cars out of service for repairs rose to seven per cent of ownership early in 1955.

The member roads of the Association of American Railroads considered these increasingly serious car supply problems in a special meeting in Chicago on June 24, 1955, and agreed forthwith on a program of concerted action to overcome them, first by stepping up car repair work, and second by purchase of new cars.

The railroads promptly carried out the pledges made at this Chicago meeting. The backlog of new cars on order rose from 17,030 on June 1, 1955, to 103,685 on December 1, while the backlog of cars awaiting repairs was reduced from 6.4 per cent of ownership on June 1, to 4.7 per cent on November 1 and to 4.4 per cent on December 1. The reduction of nearly 35,000 in bad order cars in this six-month period was sufficient to offset a 20,000-car decline in ownership and to effect a 15,000-car increase in the supply of available serviceable cars.

Nevertheless, car shortages grew worse as car-loadings rose to their seasonal peak in the fall. An average daily shortage of 22,659 cars was reported for the week ended October 29, when loadings reached their high point for the year. But when the Interstate Commerce Commission, on October 17, 1955, set aside the expiration date of Ex Parte 175 freight rate increases, one important deterrent to financial commitments was removed.

An incentive for prompt ordering of new freight cars



was provided when the government on September 29 resumed issuance of certificates for rapid amortization, applicable to freight cars ordered before the end of the year. Thereupon, at the annual Member Roads meeting of the AAR on November 18, the railroads pledged themselves to place orders before the end of the year for an aggregate of 87,000 new cars, in addition to the 57,000 already on order November 1.

The heavy backlog of new freight car orders on file at the end of 1955 will assure a substantial increase in freight car ownership in 1956—provided an adequate supply of steel and other materials needed for carbuilding can be obtained. As the year closed, however, severe limitations upon steel supplies were being encountered.

Passenger Cars: The trend in passenger-train car ownership continued downward in 1955 as it has done in each year since 1946. Railroad ownership of passenger-train cars of steel or steel underframe construction aggregated 33,685 on July 1, 1955, a reduction of 262 cars under January 1 ownership. In addition, 4,906 cars were operated by the Pullman Company, a decrease of 22 cars during the six-month period. New passenger-train cars installed during the first half of 1955 numbered 226, while 514 new cars were on order at the end of June. Cars on order included several trains of new, lightweight,

Table 12—Freight and Passenger Car Ownership and Installations

Class I railroads, 1949-1955

Year	Ownership at end of year	Installed during year	On order at end of year
FREIGHT-CARRYING CARS a			
1949	1,749,736	78,876	12,861
1950	1,717,659	39,872	109,174
1951	1,751,731	84,218	104,831
1952	1,756,700	63,748	67,138
1953	1,776,017	67,548	27,678
1954	1,735,553	28,405	13,624
1955 (11 mos.)	1,700,171	32,060	103,685
PASSENGER-TRAIN CARS b			
1949	38,608	946	1,047
1950	38,181	1,044	129
1951	37,215	183	152
1952	35,826	200	420
1953	35,084	348	449
1954	33,947	368	396
1955 (6 mos.)	33,685	226	514

a Excludes railroad controlled private refrigerator car lines
b Ownership excludes cars operated by Pullman Company, which numbered 4,906 in 1955.

Table 13—Locomotive Ownership, Installations and Orders

Class I railroads, 1949-1955

Year	Diesel-electric (units)	Steam	Electric & other (units)
OWNERSHIP AT END OF YEAR			
1949	10,888	28,964	839
1950	14,047	25,640	807
1951	17,493	21,747	796
1952	20,492	16,078	773
1953	22,503	11,787	719
1954	23,531	8,650	691
1955 (est.)	24,635	6,150	685
INSTALLED DURING YEAR			
1949	2,827	57	....
1950	3,191	12	12
1951	3,490	18	6
1952	3,035	19	8
1953	2,122	15	4
1954	1,110	....	16
1955 (11 mos.)	1,015	....	10
ON ORDER AT END OF YEAR			
1949	1,195	13	8
1950	2,098	16	8
1951	2,186	19	2
1952	914	15	29
1953	546	....	25
1954	483	....	10
1955 (Dec. 1)	879	....	27

Table 14—Locomotive Utilization

PERCENTAGE OF FREIGHT, PASSENGER AND YARD SERVICE PERFORMED, BY TYPE OF POWER

Type and year	Freight service (gross ton-miles, cars and contents)	Passenger service (car-miles)	Yard service (locomotive-hours)
Steam:			
1945	91.13%	84.45%	73.11%
1955 (10 mos)	12.56	5.20	8.30
Diesel:			
1945	6.98	9.59	25.55
1955 (10 mos)	84.90	88.44	90.93
Other:			
1945	1.89	5.96	1.34
1955 (10 mos)	2.54	6.36	0.77

low-slung design which are scheduled to be placed in service early in 1956.

Locomotives: The decline in locomotive ownership in 1955 conformed to the trend of recent years. The shift to diesel motive power continues, though at a somewhat reduced rate. As indicated in Table 13, there were 1,025 new locomotive units installed during the first eleven months of 1955, including 1,015 diesel units and 10 electric locomotive units. For the second successive year no steam locomotives were installed or on order. New locomotives on order numbered 906 units on December 1, of which 879 were diesel units, 12 were electric, and 15 were gas-turbine electrics.

Diesel locomotives in 1955 continued to bear an increasing share of the motive power burden. In the last year of World War II diesels handled less than 10 per cent of all freight and passenger service and about 25 per cent of all yard switching service. Today, diesel-electric locomotives account for 85 per cent of the gross ton-miles in freight service, 88 per cent of the car-miles in passenger service, and 91 per cent of all locomotive hours in yard service. The trend in the use of steam locomotives has been opposite to that for the diesel-electrics. The classification "other locomotives," while a relatively small part of the total, has shown a significant increase in freight service, owing to development of the gas-turbine electric locomotive of which 25 are now in regular service on one western railroad.

EFFICIENCY AND ECONOMY

Railroad operating statistics for 1955 show further gains in efficiency of the improved railroad plant. New high records were established in most categories.

Probably the most significant index of freight train performance is ton-miles per freight train-hour. That index, which combines both load and speed factors, is computed on two bases: (1) gross ton-miles of cars and contents per freight train-hour, and (2) net ton-miles (lading only) per freight train-hour. As shown by Table 15, for the ninth consecutive year both averages have established new records. Prior to 1947, the records in each category had been those made in 1944, a year of peak war traffic.

As indicated in Table 16, active freight locomotives (serviceable, not stored) in 1955 averaged 146.7 miles per day, 9.3 miles more than in 1954, the previous record year. Active passenger locomotives also established a new record, averaging 311.6 miles per day, or 6.9 miles more than in 1954. The steady climb which these averages have made in recent years is attributable chiefly to the dieselization program carried out in the postwar years. The high record of 1955 is also indicative of a marked tightening in motive power supply. The number of stored serviceable locomotives in the fall of 1955 dropped to the lowest level in over ten years.

Servicable freight cars (including serviceable surplus cars) averaged 48.1 miles per day in 1955. The decrease in idle serviceable cars during the year accounted for the increase in average utilization per serviceable car.

Average train speeds (miles per hour between terminals) were maintained at high levels. As shown in Table 17, passenger train speed set a new record of 39.8 miles per hour, while freight train speed nearly equaled the record of 18.7 miles per hour set in 1954 despite an increase in average train loads.

Average loads per train and per car in both freight and passenger services showed increases in 1955 over 1954. Net tons per train in freight service set a new record. The increase registered in passenger service averages reflects discontinuance of lightly patronized trains, rather than an increase in traffic handled.

Table 15—Ton-miles per Freight Train-hour

1946-1955

Year	Gross ton-miles	Net ton-miles
1946	37,057	17,173
1947	38,462	18,126
1948	39,903	18,778
1949	42,346	19,024
1950	44,352	20,343
1951	46,407	21,760
1952	49,113	22,565
1953	51,750	23,443
1954	53,897	23,876
1955 (10 mos)	55,893	25,397

Legislation and Regulation

STUDIES AND REPORTS

During the year several committees and commissions appointed to study matters pertaining in whole or in part to transportation issued significant reports.

On April 18, 1955, the White House made public the unanimous report of the Cabinet Committee (Presidential Advisory Committee on Transport Policy and Organization) established by the President July 12, 1954, to make

Table 16—Daily Mileage, Locomotives and Cars

1946-1955

Year	Active freight locomotives	Active passenger locomotives	Serviceable freight cars
1946	115.9	221.8	45.2
1947	120.3	219.0	48.8
1948	116.8	220.9	47.2
1949	112.5	228.5	42.9
1950	119.3	237.2	46.5
1951	122.5	247.6	47.2
1952	126.8	266.1	46.2
1953	132.7	287.9	46.5
1954	137.4	304.7	43.8
1955 (10 mos)	146.7	311.6	48.1

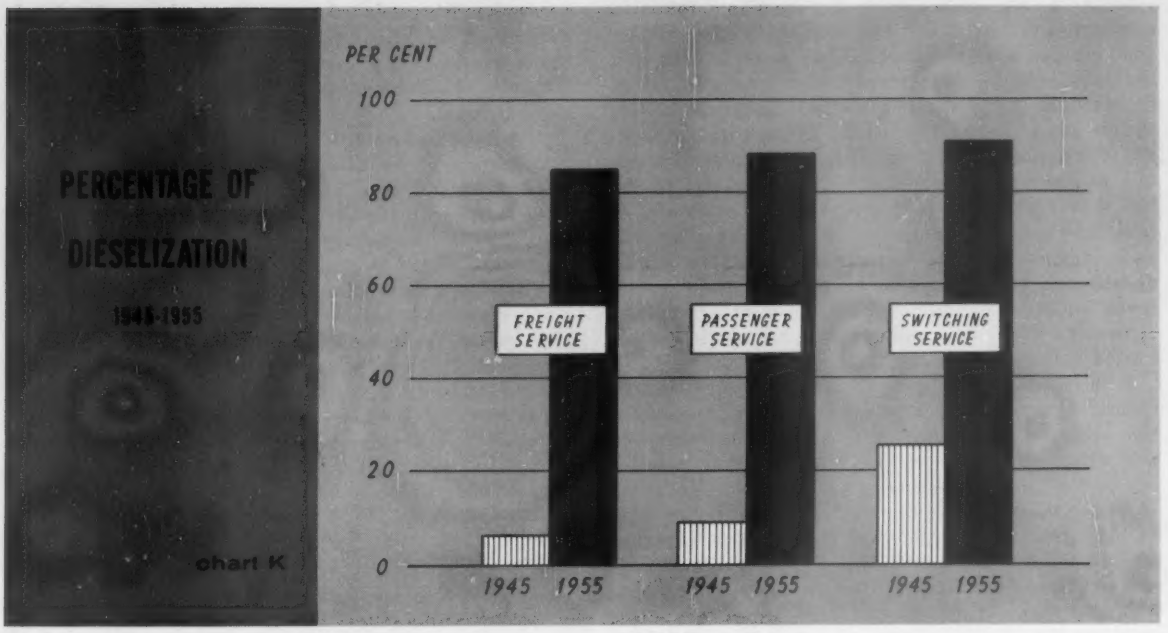


Table 17—Average Train Speed (mph)

1946-1955

Year	Freight trains	Passenger trains
1946	16.0	35.5
1947	16.0	36.1
1948	16.2	36.7
1949	16.9	37.0
1950	16.8	37.4
1951	17.0	37.7
1952	17.6	38.3
1953	18.2	39.1
1954	18.7	39.5
1955 (10 mos)	18.6	39.8

a comprehensive up-to-date review of overall federal transportation policies and problems. Only some of the principal features of this landmark document can be summarized in this brief review.

Penetrating incisively to basic issues of transportation policy, the report emphasizes "that, in conformity with today's availability of a number of alternate forms of transport, federal policies should be amended (1) to permit greater reliance on competitive forces in transportation pricing, and (2) to assure the maintenance of a modernized and financially strong system of common carrier transportation adequate for the needs of an expanding and dynamic economy and the national security."

To foster these objectives the report recommends statutory changes in regulatory provisions and standards, including the following steps to provide greater freedom in competitive rate making: (1) Appropriate revision of the existing declaration of national transportation policy; (2) changes in regulatory standards with respect to minimum rates; and (3) modification of the Interstate Commerce Commission's suspension powers.

With respect to minimum rates, the cornerstone recommendation of the report is in its "three shall not's" proposal to amend the Interstate Commerce Act so as to provide that the ICC, in considering whether a rate of any form of transportation is less than a reasonable minimum rate, *shall not* take into account (1) the effect of that rate upon the traffic of any other mode of transportation, or (2) the relationship of that rate to the rates of any other mode of transportation, or (3) whether the rate is lower than necessary to meet the competition of another mode. Under such revised standards, no form of transportation would henceforth be required to give artificial protection to the traffic and rates of another form; each would be enabled to pursue its own inherent advantages of cost and service and to develop its full and true competitive capabilities within proper limits of compensatory and non-discriminatory rates.

While the essential core of the report is in its recommendations regarding standards for minimum rates which will remove impediments to competitive rate making, there are many other proposals in the report with

Table 18—Average Train and Car Loads

1946-1955

Year	Freight Service: Net tons per train	Freight Service: Net tons per car	Passenger Service: Passengers per train	Passenger Service: Passengers per car
1946	1,086	31.3	143.7	24.7
1947	1,146	32.6	110.2	21.1
1948	1,176	32.9	100.8	19.4
1949	1,138	31.4	92.0	18.0
1950	1,224	31.7	88.5	17.0
1951	1,300	33.0	97.2	18.1
1952	1,296	32.5	98.4	18.1
1953	1,301	32.1	94.8	17.7
1954	1,287	31.4	92.1	17.4
1955	1,378a	32.1a	95.9b	17.8b

a Ten months
b Nine months

reference to revised standards for maximum rates; to amendment of Section 4 of the Interstate Commerce Act (the so-called long-and-short-haul clause); to provision for making volume or incentive rates; to redefinition of the status and obligations of contract carriers by motor vehicle and water and by private carriers on the highways; to repeal of the so-called bulk commodity exemption available to water carriers under Part III of the Interstate Commerce Act; to proposed extension of freight forwarder regulation to certain shipper associations presently exempt; to proposed facilitation of the discontinuance of unprofitable passenger-train operations; and to clarification of the so-called agricultural commodity exemption available to motor carriers under Part II of the act.

With so many recommendations contained in the Cabinet Committee report many students of transportation believe it will be necessary as a practical matter to deal with them in piecemeal fashion rather than in omnibus or "package" legislation.

Among the reports of the Second Hoover Commission (Commission on Organization of the Executive Branch of the Government) are several containing recommendations affecting transportation. The report on Transportation (March 1955) cites evidence of wasteful practices in the procurement of transportation services by the federal government and particularly criticizes the increase by the Department of Defense of services which could be obtained economically from regular commercial transportation enterprises. Another of the Hoover Commission reports, on "Legal Services and Procedure," issued April 12, 1955, proposes changes in the administrative procedures of independent agencies such as the ICC. These proposals have met with sharp criticism in some transportation quarters.

Among the most significant recommendations of the Hoover Commission on transportation are those presented in its report of June 1955, on "Water Resources and Power." With respect to the provision of navigation facilities by the federal government at no expense to the users, the report states:

> The commission considers the most important of the task-force recommendations as to navigation is that a "user charge" be imposed upon shippers over inland waterways . . .
>
> At present the government maintains these waterways free of charges at great annual expense.
>
> The principle of tolls was established for inland canals early in our history. . . . There is no distinguishing fact, theory, or principle to support user charges for the Panama Canal and on the St. Lawrence Seaway, which does not equally support user charges for inland waterways. (p. 84)

The commission then recommends—

> That Congress authorize a user charge on inland waterways except for smaller pleasure craft, sufficient to cover maintenance and operation, and authorize the Interstate Commerce Commission to fix such charges.

The final report to the President by the Commission on Intergovernmental Relations, dated June 28, 1955, includes recommendations on two subjects concerning domestic transportation. With reference to highways the report recommends that appropriations under the federal-aid highway program be increased, with the expanded highway program financed substantially on a pay-as-you-go basis supported by additional revenues provided by Congress through user taxes. On civil aviation the commission recommended that federal aid for airport construction "be continued on the present basis of national-state-local cost sharing" and further proposed that "both congressional and Presidential action be taken to re-evaluate the adequacy of federal appropriations for airport grants-in-aid."

At its annual meeting, October 26, 1955, the National Association of Railroad and Utilities Commissioners received the fourth of a series of annual reports from a committee set up by the association in 1951 to cooperate with the ICC in a study of the railroad passenger deficit problem.

Reviewing the continued curtailment of passenger train operations and decline in supply of passenger carrying equipment, the committee emphasized the importance of railroad passenger service in the national defense and urged revision of governmental policies "to reflect an awareness of this mobilization problem." As to the responsibility of governmental bodies the report said:

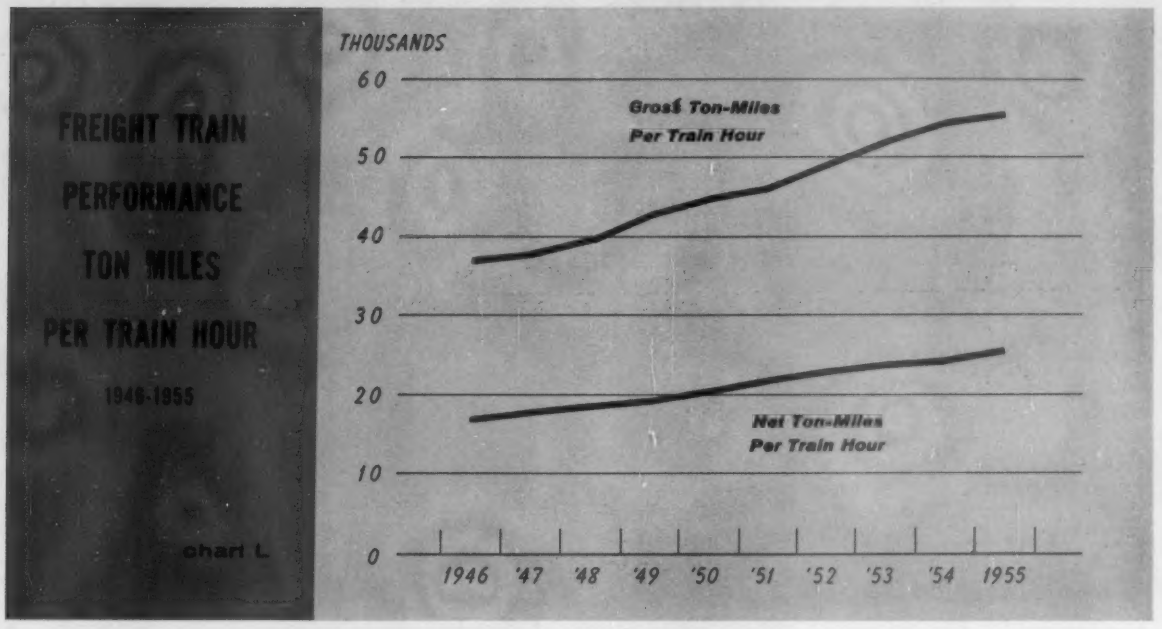
> Neither the regulatory bodies members of this association, who must administer the statutes under which they exist, nor the railroads themselves, who by necessity must seek to discontinue hopeless money-losing trains, can be held responsible for the decreases in available service and equipment, or any resulting inadequacy to meet government needs in wartime. The responsibility is, of course, generally that of all citizens, but more particularly it is heavily that of the federal and state bodies, departments and officers who formulate policies leading to less than maximum use of passenger train services or placing railroads under artificial disadvantages in attempts to compete with other carriers for passenger train traffic.

LEGISLATION

Although a number of important matters regarding transportation were considered in the first session of the 84th Congress, action was taken on only one significant measure. That measure relates to taxation and adversely affects the railroads along with other corporate taxpayers. On the recommendation of the secretary of the treasury, Sections 452 and 462 of the Internal Revenue Code of 1954 were repealed retroactively, as the secretary had advised that their retention would result in far greater loss of federal revenue than was originally anticipated.

These sections dealt, respectively, with accounting aspects of reporting prepaid income and reserves for estimated expenses in an endeavor to make tax accounting conform with business accounting. It has been indicated that the Treasury Department will recommend to the Ways and Means Committee of the House for adoption at the 1956 session of Congress a bill to reenact Sections 452 and 462 in modified form. Such a bill should make particular provision to preserve the right to accrue and deduct vacation pay and also to permit deduction of accruals of liability for personal injuries and freight loss and damage claims and the like.

Initial consideration was given by Congress in 1955 to the recommendations contained in the Cabinet Committee report of the Presidential Advisory Committee on Transport Policy and Organization. Bills designated as S.1920, H.R.6141 and H.R.6142 were introduced to give legislative effect to the Cabinet Committee recommendations and on September 19-22, 1955, preliminary hearings were held before a subcommittee of the House Committee on Interstate and Foreign Commerce for a "discussion and explanation of the report." The second ses-



sion of the 84th Congress is expected to give further consideration to the issues presented.

On February 22 the President transmitted to Congress a report of the Special Advisory Committee on a National Highway Program which recommended a bond-financing plan for an expanded federal-aid highway system. The proposals immediately became highly controversial. Extensive hearings were held in both houses of Congress on bills proposing increases in federal grants-in-aid to highways

The Senate on May 25 passed S.1048, providing for federal highway expenditures of $1,600 million for each of the next five fiscal years, but did not provide any sources of special financing for the additional expenditures. In the House all bills, both those providing for bond and for pay-as-you-go financing, were defeated after those connected with the commercial trucking industry had conducted a vigorous campaign in opposition to user charges provided in the Fallon bills (H.R.7072 and H.R.7474). Present indications are that highway programs and their financing will again be a principal issue in the current session of the Congress.

Among other legislative proposals not acted upon in the first session of the 84th Congress (and, therefore, held over for possible consideration at the second session) are the following: The trip-lease bills, S.898 and H.R.6873, which would delimit the authority of the Interstate Commerce Commission to control leasing practices of carriers of property by motor vehicle; S.1292 which would modify existing provisions of law intended to insure the receipt of revenues from fourth-class (parcel post) mail service adequate to pay the costs thereof; H.R.4054 and S.1075, bills intended to encourage the improvement and development of marketing facilities for handling perishable agricultural commodities, with the federal government assuming most of the financial risks of such promotion but with no provision for protection against loss of very substantial railroad investments in existing marketing facilities for handling such commodities; and S.2280, which would amend the Longshoremen's and Harbor Worker's Compensation Act by providing, among other things, for increased benefits in cases of disabling injuries, including those to persons employed by railroads in harbor operations. In the first session of the 84th Congress no active consideration was given to legislation similar to the Brake Bills and Communications Bills of the 83d Congress, which would have granted the ICC greatly extended authority over railroad operations.

JUDICIAL AND ADMINISTRATIVE

Judicial and administrative proceedings affecting the railroads in 1955 included a number of noteworthy developments.

Finding that the financial need of the railroads for increased rates and charges now is no less than when they were temporarily authorized as surcharges in 1952, the ICC by its order of October 17, 1955, made permanent the freight rate increases provided in Ex Parte 175 and closed the proceeding. As the commission pointed out, uncertainty in the minds of railroads as to whether they could rely on the continuation of these increases may well have been a determining factor in their decisions to cut maintenance expenditures and to reduce capital expenditures for needed improvements. Prior to the recent commission action, these increases were to have expired at the end of 1955.

Another threat to the railroads' financial stability was eased earlier in the year when, by a report and order made public on April 1, the commission dismissed the government's complaint seeking reparation from the railroads for transportation of war materials between 1941 and 1946. The 17 war materials reparations cases, involving an estimated $2 billion or more in alleged excess charges, had been before the commission six to eight years and had developed a transcript of testimony cov-

ering 13,000 pages. The Department of Justice, on May 26, filed a petition for reconsideration and the railroads, on June 30, made reply. The matter is awaiting action by the commission.

"Experiments" initiated by the Post Office Department in 1953, and subsequently extended, for the transportation of regular first-class mail by air on "space available" basis and at special low rates continued in 1955. These selective diversions are being opposed by the railroads in the courts and before the Civil Aeronautics Board on the grounds that they lack needed statutory authority. Efforts to test the legality of transporting by air regular letter mail bearing ordinary three-cent postage resulted in a declaratory judgment and order by the U.S. District Court for the District of Columbia on February 17, 1955, in which Judge James R. Kirkland found that the postmaster general was without authority to provide transportation by air for first-class mail except on an experimental basis and for a period of time not unduly prolonged. Both the railroads and the postmaster general appealed. On December 12, 1955, the United States Court of Appeals for the District of Columbia rendered a decision upholding the authority of the postmaster general to conduct such experimental operations.

In addition to these court tests, there have been further proceedings before the Civil Aeronautics Board regarding the continuance of the rates for the transportation of first-class mail by air, and both the House and Senate Committees on Post Office and Civil Service have announced investigations of the flying of first-class mail.

Temporary suspension by the government of the provision for rapid tax amortization was a deterrent factor on the ordering of new freight cars for part of the year. After the amortization provision was reinstated on September 29 (applicable only to December 31, 1955), a notable increase in car orders occurred.

The year 1955 also witnessed continued litigation before the ICC with respect to the daily rental rate for cars when off the lines of the owning railroad. In Docket No. 31358, in which the commission considered the reasonableness of per diem rates in effect since November 1, 1949, oral argument was had before the full commission on May 24, 1955. In its decision dated October 17, and released December 9, the commission found "that the per diem charges of $1.75, $2.00 and $2.40 were not in excess of reasonable compensation during the periods in which they were effective, and that the latter charge is not in excess of reasonable compensation for present use." The commission also said, "It necessarily follows that lower charges in our judgment would not be compensatory, either at present or in the past."

On April 8, 1955, a group of 79 railroads, all but one being short lines, filed in Docket 31774 a complaint seeking modification of the Section 5a agreement relating to the procedure for establishment of car hire rates. Answer on behalf of 281 defendants was filed June 1, 1955. For purposes of trial this case was combined with Docket 31824 in which three railroads by complaint filed July 5, 1955, had also sought modification of the agreement and, further, the inclusion in the agreement of a formula for determining the per diem rate. Hearings on both cases were held concurrently October 18-21, 1955. Briefs are to be filed by January 16, 1956.

At a meeting of railroad chief traffic officers in Chicago on December 16, 1955, it was decided to request authority from the ICC to increase freight rates and charges by 7 per cent. A petition for relief from the usual tariff-filing requirements was filed with the commission December 27, 1955, in advance of the filing on December 30 of a master tariff carrying the proposed increase. This increase will, if authorized, produce additional revenue sufficient to cover new wage and other costs coming upon the industry since September 30, 1955.

COMPETITION

A distinctive feature of the year 1955 has been the increasing interest manifested in the workings of competitive forces in transportation. This interest stems largely from a growing awareness in responsible quarters that existing government policies affecting transportation are producing harmful inequalities in and restraints upon effective competition which require remedial action.

As noted earlier in this review, the most important single development in this regard in 1955 was the unanimous report on "Revision of Federal Transportation Policy" submitted by the Presidential Advisory Committee on Transport Policy and Organization, frequently referred to as the Cabinet Committee. Not to be overlooked, however, is the fact that the Congress, in considering an expanded federal highway program in the 1955 session, gave particular attention for the first time to the principle of financing such an expenditure program with equitable charges levied upon commercial and other users of the facilities.

The Outlook for 1956

As was the case in 1955, the new year 1956 opens in an atmosphere of favorable economic trends. The principal question today, as it was a year ago, is how far into the new year the favorable trends will extend. The short-range outlook, three to six months into 1956, seems reasonably secure, with anticipated industrial activity ranging not far one way or the other from the level existing at the year's beginning. Such a level, say for the first half of 1956, would produce a freight traffic volume for the railroads about 5 per cent over the corresponding months of 1955.

Aside from the all-important influence of general economic trends, the railroad outlook for 1956 has a number of aspects somewhat different from those of a year ago. The year gets under way with railroad wage rates, material prices and payroll taxes at substantially higher levels than those prevailing at the beginning of 1955. The same is true with respect to maintenance and capital improvement programs. These developments, together with an appraisal of revenue prospects, will call for a searching review of the industry's finances to determine what steps need to be taken in order to maintain the desired balance between income and outgo.

Another new aspect of the situation ahead for the railroads is the fact that the movement towards modernization of the out-dated regulatory laws under which the railroads operate has finally been brought out into the open and is receiving widespread attention from many different points of view. It is hoped that 1956 will witness an appreciation of this basic situation and that this important matter may be brought nearer to a solution.

AN EXCLUSIVE RAILWAY AGE INDUSTRY SERVICE . . .

Statistical Review of 1955

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U—Construction Projects	190

A CHANGES IN CASH & CURRENT ASSETS

	Cash & Temporary Cash Investments Sept. 30		Inc. or Dec.	Total Current Assets		Total Current Liabilities		Excess of Current Assets over Liabilities		Inc. or Dec.
	1955	1954	%	End of Sept. 1955	End of Sept. 1954	End of Sept. 1955	End of Sept. 1954	End of Sept. 1955	End of Sept. 1954	%
ATaSF	$145,700,236	$124,558,519	+ 16.9	$222,983,593	$202,242,940	$103,805,807	$109,681,748	$119,182,931	$92,561,192	+ 28.7
ACL	18,074,938	16,677,555	+ 8.3	48,466,641	46,609,727	20,149,167	22,310,910	28,317,474	24,298,817	+ 16.5
B&O	42,658,880	37,259,433	+ 14.4	103,535,965	104,398,944	68,999,579	56,410,448	34,556,386	47,988,502	- 27.9
B&M	14,629,870	11,896,096	+ 22.9	29,534,337	23,847,030	18,391,842	13,694,080	11,142,495	10,152,950	+ 9.7
ColGa	8,045,310	8,196,693	- 1.8	14,681,601	15,019,939	8,054,927	7,983,470	6,566,674	7,036,489	- 6.6
CofNJ	4,987,412	4,684,604	+ 6.4	18,388,634	18,237,214	10,904,859	11,001,779	7,483,775	7,235,435	+ 3.4
C&O	83,699,122	43,805,584	+ 91.0	134,084,193	90,845,767	83,702,994	52,190,826	50,381,199	38,654,941	+ 30.3
C&EI	1,661,911	1,293,592	+ 28.4	6,842,501	5,817,242	5,457,506	5,557,036	1,384,995	260,206	+432.2
C&NW	20,640,111	11,745,492	+ 75.7	55,765,756	49,931,735	37,394,187	37,643,699	18,371,569	12,288,036	+ 49.5
CB&Q	43,339,619	41,540,899	+ 4.3	83,461,686	79,479,600	45,500,503	45,522,616	37,961,183	33,956,984	+ 11.7
CGW	6,688,046	6,357,547	+ 5.1	10,373,771	10,211,071	6,660,874	6,811,904	3,713,497	3,399,167	+ 9.2
CMStPaP	46,305,636	30,594,337	+ 51.3	90,899,929	76,265,465	42,036,411	37,862,960	38,853,518	38,402,505	+ 1.1
CRIaP	34,860,468	28,919,363	+ 20.5	64,666,422	60,153,264	43,732,673	36,774,893	20,933,749	23,378,971	- 10.4
CStPM&O	1,193,112	1,093,563	+ 9.1	6,091,876	6,341,926	5,051,369	4,954,436	1,040,507	1,387,490	- 25.0
DaH	15,723,607	14,635,749	+ 7.4	26,081,185	22,680,172	6,358,592	4,849,756	19,522,593	17,830,416	+ 9.4
DL&W	11,206,143	12,070,670	- 7.1	27,836,364	29,130,701	14,113,767	10,367,527	13,722,597	18,763,174	- 26.9
DaRGW	22,772,269	22,797,185	- .1	37,421,471	37,135,232	19,896,560	16,894,765	17,594,911	20,840,487	- 15.5
DMaIR	18,969,903	7,571,448	+150.5	26,859,684	15,988,104	17,949,536	12,986,937	8,910,068	3,001,167	+196.8
E&E	16,340,282	4,373,258	+273.6	19,317,490	7,198,371	16,753,865	11,567,985	2,563,625	4,369,614	- 41.3
Erie	21,303,724	12,079,050	+ 76.3	43,489,947	36,713,926	28,316,537	26,467,923	15,173,410	10,246,003	+ 48.0
GTW	2,782,849	2,306,445	+ 20.6	10,869,106	11,565,268	8,639,902	8,567,077	2,229,204	2,998,191	- 25.6
GN	71,850,084	51,533,848	+ 39.4	117,101,902	99,911,847	50,908,606	45,868,578	66,193,296	54,043,275	+ 22.4
GM&O	20,018,419	19,433,403	+ 3.0	39,445,991	38,642,761	23,022,344	22,616,784	16,423,447	16,026,037	+ 2.4
IC	62,121,088	37,463,753	+ 65.8	108,750,829	148,871,874	61,304,444	120,656,675	47,446,385	28,215,199	+ 68.1
LV	9,878,884	10,709,681	- 7.7	20,960,683	19,523,974	11,726,461	12,406,511	9,534,222	7,117,463	+ 19.9
LI	8,825,690	5,701,208	+ 44.2	14,967,047	13,871,327	11,086,636	13,973,702	3,880,411	102,375	*
L&N	39,314,868	42,178,242	- 6.7	79,214,430	82,086,642	28,603,100	26,140,011	50,611,330	55,886,631	- 9.4
MStPaSSM	10,025,404	6,402,521	+ 56.5	20,253,208	15,845,139	11,442,311	9,548,651	8,810,897	6,296,488	+ 39.9
M-K-T	13,138,635	13,415,327	- 2.0	25,922,891	27,459,328	14,659,298	15,131,792	11,263,593	12,327,536	- 8.6
MP	54,900,650	70,971,828	- 22.6	82,365,800	101,037,272	33,873,287	29,973,857	48,492,213	71,063,415	- 31.7
NYC	94,055,705	35,787,149	+162.8	197,410,812	148,404,973	131,296,701	122,972,546	66,114,111	24,432,427	+170.5
NYCStL	36,694,703	33,130,397	+ 10.7	58,239,557	53,785,804	33,885,029	32,720,874	24,354,528	21,064,930	+ 15.6
NYNHaH	13,851,420	15,998,186	- 13.4	41,680,868	35,272,120	33,280,958	30,633,213	8,399,904	4,738,907	+ 77.2
NaW	62,017,074	33,442,638	+ 85.4	98,418,001	71,253,636	42,043,427	32,526,030	56,374,574	38,727,606	+ 45.5
NP	26,781,833	21,821,234	+ 22.7	68,130,841	61,435,531	43,302,258	32,714,524	24,828,583	28,721,007	- 13.5

CHANGES IN CASH & CURRENT ASSETS (Continued)

PRR	143,928,121	138,169,207	+ 4.0	266,743,432	265,456,703	140,108,188	126,008,824	126,633,244	139,447,879	− 9.1
P&LE	14,759,088	4,490,224	+228.6	22,617,353	11,562,019	10,769,168	7,674,616	11,848,185	3,887,403	+204.7
Reading	20,834,609	14,728,639	+ 41.4	37,512,158	31,979,029	21,033,276	18,720,792	16,478,882	13,256,237	+ 24.2
StL-SF	38,961,751	22,939,510	+ 69.8	58,050,821	42,427,217	25,201,860	21,825,038	22,848,961	20,602,179	+ 39.4
StLSW	30,537,195	26,091,785	+ 17.0	39,542,106	34,284,523	15,201,136	15,012,918	24,340,972	19,271,605	+ 26.3
SAL	34,739,981	36,362,528	− 4.4	57,112,480	55,977,037	23,789,856	25,712,324	33,382,624	30,264,713	+ 10.3
Southern	100,249,529	87,600,761	+ 14.4	129,642,617	122,285,347	72,427,245	64,400,952	57,215,372	57,884,395	− 1.1
SP System	128,663,692	124,145,139	+ 3.6	212,854,127	209,107,350	115,751,465	108,764,734	97,102,662	100,342,616	− 3.2
T&P	21,106,386	20,075,697	+ 4.6	32,422,062	33,336,407	13,119,989	10,867,468	19,302,073	22,468,939	− 14.0
UP	127,979,492	104,339,626	+ 22.6	220,726,980	196,282,954	113,159,790	112,021,257	107,567,190	84,261,697	
Wab ash	25,167,341	19,531,528	+ 30.9	36,165,618	31,127,787	18,790,520	22,277,870	17,375,098	8,849,917	+ 27.6 + 96.3

Certain capital and other reserve funds are not included in this tabulation.
*Current liabilities exceeded current assets in 1954.

B REPRESENTATIVE EQUIPMENT ISSUES

Issues Sold in 1955

Road	Maturity	Amount	Int. Rate %	Issue Sold at Price	Issue Sold at Cost	Purchaser
Central of Georgia, Ser. A	1956-1970	930,000	3⅛	99.35	3.25	Salomon Bros. & Hutzler, et al.
Chesapeake & Ohio	1956-1970	3,600,000	3	99.134	3.16	Halsey, Stuart & Co., et al.
Chicago & North Western	1956-1970	3,330,000	3⅛	99.0877	3.55	Salomon Bros. & Hutzler, et al.
	1956-1970	3,900,000	3⅛	99.51	3.74	Kidder, Peabody & Co., et al.
Chicago, Burlington & Quincy	1956-1970	8,700,000	2½	99.33	3	Kidder, Peabody & Co., et al.
	1956-1970	4,350,000	3⅛	99.527	3.20	Salomon Bros. & Hutzler, et al.
Chicago, Rock Island & Pacific, Ser. P	1956-1967	2,952,000	3	92.2099	3.15	Halsey, Stuart & Co.
Denver & Rio Grande Western, Ser. T	1955-1970	2,340,000	2⅞	99.105	3.02	Salomon Bros. & Hutzler, et al.
Erie	1956-1970	3,270,000	3	99.319	3.13	Halsey, Stuart & Co., et al.
Illinois Central, Ser. 40	1955-1970	8,700,000	2⅝	99.15	2.76	Halsey, Stuart & Co., et al.
Missouri Pacific, Ser. ZZ	1956-1970	3,900,000	3	99.37	3.12	Salomon Bros. & Hutzler, et al.
Ser. A	1956-1970	2,925,000	3¼	99.3099	3.39	Halsey, Stuart & Co., et al.
Ser. B	1956-1970	3,675,000	3⅜	99.278	3.52	Salomon Bros. & Hutzler, et al.
New York Central	1956-1970	7,500,000	3⅛	99.13	3.80	Halsey, Stuart & Co., et al.
New York, Chicago & St. Louis	1955-1970	4,080,000	2⅞	99.14	2.01	Halsey, Stuart & Co., et al.
New York, New Haven & Hartford	1956-1970	3,345,000	3	98.7593	3.22	Halsey, Stuart & Co., et al.
Northern Pacific	1956-1970	3,960,000	2¾	99.19	2.89	Salomon Bros. & Hutzler, et al.
	1956-1970	5,160,000	3	99.14	3.16	Halsey, Stuart & Co., et al.
	1956-1970	2,820,000	3	99.1687	3.15	Halsey, Stuart & Co., et al.
	1956-1970	1,800,000	3¼	99.419	3.36	R. W. Pressprich & Co., et al.
Pennsylvania, Ser. CC	1956-1970	6,810,000	2¾	99.652	2.82	Salomon Bros. & Hutzler, et al.
Ser. DD	1956-1970	7,965,000	3⅛	99.258	3.27	Salomon Bros. & Hutzler, et al.
Reading, Ser. W	1955-1970	1,350,000	2⅞	99.384	2.97	R. W. Pressprich & Co., et al.
Ser. X	1956-1970	4,200,000	3¼	99.458	3.34	Salomon Bros. & Hutzler, et al.
Seaboard Air Line, Ser. P	1956-1970	6,555,000	3	98.727	3.23	Salomon Bros. & Hutzler, et al.
Southern Pacific, Ser. PP	1955-1969	8,910,000	2¾	99.4706	2.85	Salomon Bros. & Hutzler, et al.
Ser. QQ	1956-1970	8,400,000	2⅞	99.30	3.00	Halsey, Stuart & St., et al.
Ser. RR	1956-1970	9,390,000	3⅛	99.1013	3.29	Halsey, Stuart & Co., et al.
Texas & Pacific, Ser. P	1956-1965	1,350,000	2½	98.137	2.52	Salomon Bros. & Hutzler, et al.
Wabash, Ser. F	1956-1970	1,530,000	2¾	98.66	2.98	Salomon Bros. & Hutzler, et al.

C 1955 RAILROAD SECURITIES ISSUES

Railroad	Type of Security	Total Amount	Selling Price	Interest Cost	Purpose of Issue
Atlantic Coast Line	Common Stock	1,646,845 sh.	.....	....	To effect 3-for-1 split of outstanding common stock.
	3⅛% gen. mtge. bonds, Series D	$13,474,000	98.04	3.74	To redeem like amount of 3⅛% bonds, Series X.
Baltimore & Ohio	Various types of bonds and notes	$347,000,000	.....	....	To reduce interest charges and simplify the B&O capital structure by refunding and consolidating debt.
Bangor & Aroostook	Common stock	7,089 sh.	.....	....	Stock dividend; 1 new share for each 20 shares held.
	Promissory note	$ 4,000,000	Par	....	To redeem 38,280 shares of 5% cumulative preferred stock.
	Income debentures	$4,000,000	.....	....	To be exchangeable for above notes, at request of holders.
Beaufort & Morehead	Promissory note	$25,000	.....	....	To construct new track and repair other properties.
Chesapeake & Ohio	Common stock	200,000 sh.	.....	....	To sell to officers and employees under stock option plan.
Chicago & Eastern Illinois	Income debentures	$13,350,000	.....	....	To be exchanged for 383,751 Class A shares.
	3¾% 1st mtge. bonds, Series B	$990,000	91.5	4.25	To pay demand note for $500,000 and augment working capital.
Chicago & Illinois Midland	Promissory note	$7,600,000	.....	4.75	To buy new equipment; to discharge 4% and 5% serial notes; and to evidence cash advances.
Chicago Great Western	Common stock	8,816 sh.	.....	....	Stock dividend; one new share for each 40 held.
Chicago, Milwaukee, St. Paul & Pacific	Income debentures, Series A	$60,000,000	.....	....	To be exchanged for 600,000 shares of preferred stock, Series A.
Chicago, Rock Island & Pacific	Income debentures	$65,000,000	.....	....	To redeem 619,047 shares of preferred stock, Series A.
Chicago South Shore & South Bend	Sinking fund notes	$1,500,000	.....	....	To provide funds for a track relocation project.
Denver & Rio Grande Western	Common stock	2,399,710 sh.	.....	....	To be exchanged on 3-for-1 basis for 799,903 shares of outstanding $100-par common stock.
Duluth, South Shore & Atlantic	Promissory notes	$346,856	.....	....	To be used in connection with purchase of 14-mile line in Michigan.
Erie	Income debentures	$40,288,200	.....	....	To be exchanged for 402,882 shares of outstanding 5% preferred stock, Series A, on basis of $100 of debentures for each share.
Fairport, Painesville & Eastern	Common stock	75,000 sh.	.....	....	47,500 shares to be exchanged, on a 5-for-1 basis for 9,500 shares of outstanding common; 23,750 shares to be used as a dividend on basis of 1 share for each 2 new shares of new stock outstanding; 3,750 shares for sale to officers and employees.
Gulf, Mobile & Ohio	4% 1st & refdg. mtge. bonds	$624,000	.....	....	To finance acquisition of New Orleans Great Northern 1st mortgage 5% bonds, Series A, due in 1983.

1955 RAILROAD SECURITIES ISSUES (Continued)

Lehigh Valley	Promissory note	$4,500,000	.....	....	To evidence loan of like amount; proceeds of loan, plus treasury funds, to redeem $7,840,000 of 6% consolidated mortgage annuity bonds.
Maine Central	1st mtge. 4⅛% and consolidated bonds	$1,700,000	.....	....	To redeem all $1,408,000 outstanding 1st mortgage 5% bonds.
	5% 1st mtge. and collateral bonds	$3,114,500	.....	....	To acquire all outstanding stock of the European & North American.
Newport & Richford	4% 1st mtge. bonds	$450,000	.....	....	To be exchanged, with Canadian Pacific, for N&R 4% sinking fund bonds, and as repayment for cash advances.
New York Central	Capital stock	640,000 sh.	.....	....	To implement stock purchase plan for officers and employees.
New York, Chicago & St. Louis	Income debentures	$36,000,000	99.55	4.53	To redeem all 334,166 shares of 6% preferred stock, Series A.
New York, New Haven & Hartford	Common stock	200,000 sh.	.....	....	To implement stock purchase plan for officers and employees.
	Common stock	1,073,046 sh.	.....	....	To be exchanged on a 1-for-1 basis for like amount of $100-par common stock.
	Common stock	1,183,333 sh.	.....	....	To be exchanged on a 1-for-1 basis for equal number of $100-par common shares reserved for conversion of the 5% preferred stock, Series A.
Sacramento Northern	Common stock	75,000 $100-par sh.	.....	....	To effect recapitalization.
St. Louis-San Francisco	4% 1st mtge. bonds, Series B	$19,500,000	98.3	4.11	To reimburse treasury in part for capital expenditure improvements.
Southern Pacific	1st mtge. bonds, Series D	$21,091,000	.....	....	To repay partially for capital expenditures.
	3⅛% debentures	$22,200,000	.....	....	To reimburse treasury for capital expenditures.
Springfield Terminal	Common stock	1,000 sh.	.....	....	As a dividend to the Boston & Maine.
Spokane International	Promissory note	$700,000	.....	....	To evidence loan of like amount; loan to be used to pay outstanding notes and to finance in part rebuilding of a bridge.
Union	Unsecured promissory note	$3,000,000	.....	....	For loan to be used, with other funds, to retire Monongahela Southern bonds.
Wellsville, Addison & Galeton	Common stock	1,000 sh.	.....	....	To provide funds for purchase of 97-mile of line from Baltimore & Ohio, and to provide working capital.
	4% bonds	$150,000	.....	....	
Western Maryland	Common stock	722,755 sh.	.....	....	To pay off dividend arrearages on preferred stock.
White City Terminal	Common stock	10,000 sh.	.....	....	To be exchanged for various rail facilities and properties.
Yancey	Common stock	1,500 sh.	.....	....	To purchase properties of the abandoned Black Mountain; rehabilitate two bridges; purchase a diesel-electric locomotive; and provide working capital.

D NEW SECURITIES ISSUES, 1935-1955

(Amounts in thousands of dollars)

Year	Bonds	Stock	Railroad total	Total all industries	Railroad as per cent of total
1935	126,031	.....	126,031	2,331,630	5.4
1936	793,618	$3,838	797,456	4,571,670	17.4
1937	344,257	.....	344,257	2,309,524	14.9
1938	54,873	.....	54,873	1,154,664	2.5
1939	185,474	233	185,707	2,164,007	8.6
1940	323,912	.....	323,912	2,677,173	12.1
1941	366,313	.....	366,313	2,666,887	13.7
1942	47,726	.....	47,726	1,062,288	4.5
1943	161,179	.....	161,179	1,169,692	13.8
1944	609,010	350	609,360	3,201,891	19.0
1945	1,453,517	504	1,454,021	6,010,985	24.2
1946	711,119	.....	711,119	6,899,646	10.3
1947	285,680	.....	285,680	6,576,824	4.3
1948	623,348	.....	623,348	7,077,820	8.8
1949	459,982	.....	459,982	6,051,550	7.6
1950	554,100	.....	554,100	6,361,043	8.7
1951	330,021	5,066	335,087	7,741,099	4.3
1952	524,205	1,000	525,205	9,534,162	5.5
1953	302,397	.....	302,397	8,897,996	3.4
1954	478,895	427	479,322	9,516,168	5.0
1955	501,200	150	501,350	8,659,663	5.8

10 months total.
Compiled by Securities and Exchange Commission.

E 1951-1955 SIGNAL CONSTRUCTION

	1955	1954	1953	1952	1951
Automatic block signals	754	678	967	1,318	1,189
Interlocking Construction					
Signals and switches					
At new plants and added in plants rebuilt	1,433	1,153	1,832	1,372	1,284
At automatic plants	147	156	151	133	116
Spring switches					
Spring buffer mechanisms	107	140	162	177	163
Mechanical facing-point locks	35	49	84	70	58
Signals at spring switches	183	203	256	317	280
Centralized traffic control					
Power switch machines	305	548	680	597	396
Semi-automatic signals	885	1,496	1,845	1,512	1,153
Intermediate signals in CTC territory	483	967	956	852	587
Classification yards					
Car retarders	54	40	30	57	10
Power switch machines	247	165	156	304	32
Highway crossing protection					
Number of crossings at which new installations were made in year	1,146	1,362	1,491	1,435	1,406
Totals	5,779	6,967	8,610	8,144	6,674

F CENTRALIZED TRAFFIC CONTROL

INSTALLED IN 1955

Railroad and Location	Miles of Road	No. of Power Switches	No. of Lever Controlled Signals	No. of Intermediate Automatic Signals	Manufacturer
AT&SF					
Wynnewood, Okla.-Dallon Jct., Tex.	101.1s	27	73	54	Union
East Dallas, Tex.-Dalton Jct.	9.4s	3	12	2	Union
ACL					
Hardeeville, S. C.-Savannah, Ga.	2.6s	15	27	11	Union
	16.1d	..	..	..	
Winston, Fla.-Prairie Jct.	5.8s	6	11	2	Union
Manchester, Ga.-Pyne	37.3s	10	35	15	Union
B&LE					
Albion, Pa.-Meadville Jct.	16.6s	2	6	9	Union
	1.9d	..	..	..	
Meadville Jct. Pa.-Filer	....	2	12	..	Union
B&M					
Scotia West, N. Y.-Rotterdam	2.6s	..	3	5	Union
Winchester, Mass.	1.0d	5	5	..	
CN					
Camrose Jct. Alb.-Forlow Jct.	4.5s	..	6	3	Union
CAO					
Columbus, Ohio-Delaware	21.2d	14	22	8	Union
Marion, Ohio-VR Tower	71.9d	62	108	20	Union
Clare, Mich.-Ludington	81.6s	15	52	15	GRS
CB&Q					
Gibbs, Ill.-Concord	3.0s	..	..	2	Union
Bushnell, Ill.-Quincy	68.7s	16	73	38	GRS
	3.7d				
D&H					
Ft. Edward, N. Y.-Saratoga	14.3s	8	16	12	GRS
	3.7d				
D&RGW					
Salt Lake City, Ut.-Woods Cross	8.2s	..	17	2	GRS
Erie					
Pershing, Ind.-Aldine	21.8s	4	12	12	Union
GM&O					
Bloomington, Ill.-Normal	3.5s	1	3	2	GRS
L&N					
Knoxville, Tenn.-Etowah	58.0s	9	30	26	Union
NY City					
New York, N. Y., 180th-243rd St.-IRT	4.0d	10	35	..	Union
Flushing Line IRT	....	12	30	..	Union
N&W					
Hopewell, Va.-Camp Lee	3.5s	..	3	1	Union
Farm, W. Va.-Wilmore	9.0d	10	22	16	Union
Pelton, Va.-Walton	6.5s	2	2	8	Union
Pennsylvania					
Union City, Ind.-Kirk	22.8s	1	3	11	Union
Reading					
Reading, Pa.-Blandon	9.8s	3	9	2	GRS
	1.0d				
Port Clinton, Pa.-Tamaqua	13.8s	4	12	..	GRS
	5.0d				
StL-SF					
Nash, Mo.-Blythville, Ark.	96.6s	4	53	48	Union

CENTRALIZED TRAFFIC CONTROL (Continued)

Nonco, Tenn.-Potts Camp, Miss.	50.7s	7	23	24	Union
StLSW					
Tyler, Tex.-Texarkana	128.0s	18	62	57	Union
SAL					
No. Hamlet, N. C.-Hamlet	5.9d	..	2	8	Union
Yulee, Fla.-Panama Pk	18.9s	6	16	10	Union
Jacksonville, Fla.-West Switch	4.2s	5	10	4	Union
Tallahassee, Fla.-MP 803	4.3s	3	13	5	Union
T&P					
Mineola, Tex.-Scottdale	69.0s	18	57	46	GRS
WM					
Walbrook Jct., Md.-Tide	3.0s	1	3	4	Union
WP					
Niles, Calif.-San Jose	17.0s	..	7	1	Union
Hayward, Calif.	....	2	..	..	Union
	887.1s 145.2d	305	885	483	

G AUTOMATIC BLOCK SIGNALING

INSTALLED IN 1955

Railroad and Location	Miles of Road	No. of Signals	Manufacturer
ACL			
Burroughs, Ga.-Walthourville	26.1d	29	Union
B&M			
Winchendon, Mass.	0.2s	1	GRS
Wells River, Vt.-Ely	20.9s	51	GRS
Wells River, Vt.-Woodville, N. H.	0.5s	6	GRS
Portsmouth, N. H.	0.4s	1	GRS
Wedgemere, Mass.	1.0d	3	.....
Woburn, Mass.	0.7s*	1	GRS
CN			
Blue River, B. C.-Kamloops Jct.	139.4s	180	GRS
St. Davids, Ont.-St. Catharines	0.8s	11	GRS
	8.2d	..	
CP			
Mac Tier, Ont.-Pointe au Baril	50.5s	77	Union-GRS
Eagle River, Ont.-Vermillion Bay	13.0d*	4	GRS
C&IM			
Culver, Ill.-Echard	2.1s	6	Union
CMStP&P			
Chicago-Elgin	54.0**	16	Union
CNS&M			
Mundelein, Ill.	1.0s	2	Union
DL&W			
Alexander, N. Y.-Fargo	10.0d	10	Union
GN			
Gunn, Minn.-Cohasset	7.9s	14	GRS
MeC			
Tomah, Me.-Vanceboro	12.2s	18	GRS
Gardiner, Me.-Hallowell	4.5s	6	GRS
MTA			
Boston, Mass.	....	2	Union
NYCStL			
Cayuga, Ind.-Hemrick, Ill.	6.0s	2	Union
NY City			
New York, N. Y.	1.5d	2	GRS
	8.6d	158	Union
NYO&W			
Woodridge, N. Y.-Lezon	7.0s	10	Union
NP			
Pasco, Wash.-Glade	5.0s	5	GRS
ON			
Temagami, Ont.-Bushnell	25.0s	38	GRS
Pennsylvania			
Yellow Creek, Ohio-Mingo Jct.	19.4d	Cab	Union
Philadelphia, City of			
Philadelphia	9.0s	99	Union
StL-SF			
Chaffee, Mo. yard	2.2s	2	Union
	349.3s 87.8d	754	

*One track of double track.
**Additional signaling to run both ways on each of two main tracks on 54 track miles.

H 1955 RETARDER INSTALLATIONS

Railroad and Location	No. of Retarders	Rail Feet of Retarder	No. of Power Switches	No. o Classification Tracks	Manufacturer
B&O					
Connellsville, Pa.	3	594	16	15	GRS
C&O					
Stevens, Ky.	4	512	17	15	Union

1955 RETARDER INSTALLATIONS (Continued)

NP					
Pasco, Wash.	6	1,584	53	47	GRS
Pennsylvania					
Conway, Pa.	18	3,050	55	54	Union
Pitt. & Con. Dock					
Conneaut, Ohio	1	87	..	..	Union
Southern					
Chattanooga, Tenn.	9	1,663	59	60	GRS
SP					
Houston, Tex.	7	1,782	47	48	GRS
Tenn. Val. Auth.					
Bridgeport, Ala.	1	55	..	..	GRS
Kingston, Tenn.	2	154	..	..	GRS
U. S. Steel					
Corbin, Ky.	3	315	..	1	Union
	54	9,796	247		

I INTERLOCKINGS INSTALLED

Railroad and Location	No. of Home Signals	No. of Power Switches	Manufacturer
AT&SF			
Streator, Ill.	8	6	Union
Emporia, Kan.	19	15	Union
Richardson, Tex.	4	..	Union
ACL			
Dunnellon, Fla.	8	3	Union
Savannah Draw, Ga.	2	..	Union
B&O			
Greene Jct., Pa.	3	25	GRS
Baltimore, Md.	14	33	GRS
Greenwich, Ohio	4	3	GRS
B&M			
Saugus River Draw, Mass.	2	..	GRS
E. Fitchburg, Mass.	..	1	GRS
Winchester, Mass.	3	1	....
CN			
Portage la Prairie, Man.	10	2	GRS
North Bay, Ont.	6	1	GRS
Charny, Que.	5	2	GRS
Montreal, Que. (additions)	2	2	Union
Woodstock, Ont.	6	..	....
Canso Causeway, NS.	2	2	GRS
C&O			
Clifton Forge, Va.	8	4	Union
Big Sandy Jct., Ky.	34	15	Union
C&IM			
Havana, Ill.	3	1	Union
C&WI (BRyoK)			
Hayford, Ill.	27	25	Union
CB&Q			
Monmouth, Ill.	9	2	....
CMStP&P			
Davis Jct., Ill.	6	..	Union
Franklin Park, Ill.	..	8	Union
Bensenville, Ill.	..	10	Union
Roselle, Ill.	8	4	Union
Spaulding, Ill.	1	3	Union
CRI&P			
Peabody, Kan.	7	1	Union
CTA			
Chicago, Ill.	3	6	Union
DL&W			
Secaucus, N. J.	5	11	Union
Erie			
Jersey City, N. J.	13	..	GRS
Binghamton, N. Y.	14	9	GRS
Franklin, Pa.	4	2	GRS
GN			
Allouez, Wis.	25	..	GRS
Grand Forks, N. D.	19	..	GRS
Everett Jct., Wash.	..	2	GRS
KCT			
Kansas City, Mo.	82	73	Union
K&IT			
Louisville, Ky.	12	4	GRS
LV			
Potter, N. J.	5	3	....
Black Creek Jct., Pa.	4	1	....
LI			
Woodside, N. Y.	7	3	Union
MKT			
Denison, Tex.	8	2	Union
NYC			
Bridge 2, Ohio	8	8	GRS
DK, Cleveland, Ohio	6	4	GRS
Windsor, Ont.	3	1	GRS
NYCStL			
Hemrick, Ill.	3	1	Union
NY City			
New York, N. Y.-Queens IND	6	2	GRS
BMT 11th St.	20	6	GRS
IRT 142nd St.	6	..	Union
IRT 149th St.	26	2	Union
IRT Brook Ave.	12	2	Union
IRT 219th St.	17	..	Union
IRT 239th St.	23	..	Union
IRT 180th St.	24	9	Union
Nostrand Ave.	11	4	Union
IRT Morris Pk.	9	13	Union
IRT Rawson St.	25	9	Union
IRT 174th St.	9	8	Union

INTERLOCKINGS INSTALLED (Continued)

NYNHAH			
New Haven, Conn.	87	70	Union
NP			
Pasco, Wash.	6	2	GRS
PE			
Amoco, Calif.	1	..	Union
Pennsylvania			
Wanatah, Ind.	3	1	Union
Kirk, Ind.	3	1	Union
Mansfield, Ohio	9	11	Union
Carrothers, Ohio	2	4	Union
Philadelphia, Pa.	5	10	Union
Kenneth, Ind.	5	1	Union
Rockville, Ohio	..	9	Union
Philadelphia, City of			
Philadelphia	3	2	Union
Reading			
Reading, Pa.			
Walnut St.	11	10	GRS
Biandon St.	6	5	GRS
Center St.	13	9	GRS
Oley, Pa.	16	26	GRS
Canal, Pa.	3	1	GRS
Swatara, Pa.	6	3	GRS
Port Clinton, Pa.	7	4	GRS
West Trenton, N. J.	18	10	Union
Yardley, Pa.	8	8	Union
StL-SF			
Rosedale, Kan.	7	4	Union
TRRStL			
St. Louis, Mo.	7	4	....
Wabash			
Detroit, Mich. (Dix)	4	2	Union
Detroit, Mich. (Wall)	3	1	Union
Detroit, Mich. (Allen)	3	1	Union
WM			
Arlington, Md.	8	2	Union
Walbrook Jct., Md.	5	3	Union
WP			
Oakland, Calif.	8	2	Union
Niles, Calif.	5	1	Union
	972	561	

Other interlockings installed in 1955 include 33 automatic plants on 17 roads, including 146 signals and 1 switch machine. Also 33 roads installed a total of 107 spring switches, 35 of which were equipped with automatic mechanical facing-point locks, and 103 signals were installed to protect these spring switches.

J YARD RADIO INSTALLATIONS

Railroad	No. of Yards with Radio	No. of Loco. Equipped	No. of Fixed Stations	1955 No. of Walkie-Talkie Sets
AT&SF	9	15	2	4
	..	..	..	2
	..	1*	..	..
A&WP-WofA	1	2	..	..
Ga.	1	2	..	..
ACL	5	..	5	6
	system	35	..	..
B&O	1	4	1	..
B&M	1	27	1	3
	..	2*	1	..
CofG	1	1	1	..
C&O	7	11	2	..
	..	15	2	..
	..	..	6†	..
C&NW	1	22	..	..
	..	2	2	..
C&WI				
BRofC	1	7	1	..
CB&Q	5	25	..	..
C&L	1	6	1	6
CRI&P	4	3	4	..
CSS&SB	1	..	1	..
D&H	1	13	1	..
	..	1*	..	..
DL&W	1	..	1	1
E&AE	1	..	3	25
Erie	3	2	..	..
	..	..	..	1
	..	1**	..	..
GN	1	..	1	..
GB&W	1	..	1	..
GM&O	8	..	8	..
IC	3	2*	..	..
	..	..	..	8
KCT	1	4*	1	..
	..	..	..	2
K&IT	1	5	2	1
MP	2	6	1	..
	..	..	..	6
NC&StL	1	9	2	6
NYC	4	27	4	10
	..	2	1	..
N&W	1	7	..	..
NP	6	24	11	8
Pennsylvania	4	10	1	..
	..	14	3	..
	..	..	1	5
	..	5†	1†	..
	..	..	1	..
	..	..	..	100

YARD RADIO INSTALLATIONS (Continued)

StL-SF	1	2	1	..
	..	..	..	10
SP	8	43	2	..
T&NO	3	18	3	..
SP&S	system	4	..	..
Tenn. Cent.	1	6	1	..
UP	5	8	5	..
Wabash	1	3	1	..
WP	12	39	12	..
	..	..	1	2
	..	2**	..	..
	..	3*	..	..
Totals	109	440	100	206

*Automobile, truck, tractor or business car.
**Ships or tugs.
†Inductive.

K YARD COMMUNICATIONS

INSTALLED IN 1955

Railroad	Loudspeaker Systems: No. of Yards Equipped	No. of Two-way Speakers	No. of Paging Speakers	Intercommunication Systems: No. of Systems Installed	No. of Telephones	No. of Loud-Speakers
A&S	..	..	..	1	..	2
AT&SF	..	..	..	2	..	10
B&O	3	52	35	2	19	68
B&M	..	..	..	1	3	3
CofG	1	..	1	..	..	..
C&O	3	143	13	1	..	3
C&NW	1	4	6	..	..	..
C&WI	1	70	..	..	..	..
BRofC	1	9	..	1	..	14
CA&E	..	..	..	1	..	9
CB&Q	1	..	22	..	..	..
CNS&M	..	..	..	3	3	3
CRI&P	1	12	12	..	..	..
DL&W	..	..	..	1	..	1
D&RGW	..	..	..	1	12	8
DTAI	..	..	..	1	..	6
E&AE	..	..	..	2	3	24
GN	..	..	..	1	..	5
GM&O	..	..	..	4	16	18
IC	3	70	33	..	..	..
Indpls. Union	1	5	..	..	..	..
KCT	1	38	..	..	..	..
L&N	1	..	13	1	12	35
MKT	1	2	6	..	..	..
NYC	10	8	41	3	2	46
NYC&StL	1	20	..	..	..	..
NY City	..	..	..	4	4	9
N&W	2	..	11	2	..	34
NP	2	103	24	..	..	..
Pennsylvania	2	115	80	2	12	9
RF&P	1	19	4	..	..	..
StL-SF	2	..	41	2	..	20
SAL	1	3	..	..	..	..
SP	..	..	..	..	..	..
T&NO	2	240	20	..	..	..
SP&S	..	..	..	1	..	3
T&P	..	..	..	1	..	2
UP	1	10	..	3	38	67
Virginian	1	4	3	..	..	..
Wabash	1	42	9	..	..	..
WM	1	..	12	..	..	..
Totals	46	969	408	43	124	403

L ROAD TRAIN COMMUNICATIONS

INSTALLED IN 1955

Railroad	No. of Locos. Equipped	No. of Cabs, or Other cars Equipped	No. of Fixed Ways, Sta.	No. of Walkie-Talkie Sets
AT&SF	56	35	..	16
A&WP-WofA	..	2	..	..
ACL	42	25	17	57
B&LE	5	..	1	..
CofG	12	..	..	8
C&O	..	12	7	..
C&EI	26	..	..	44
CB&Q	57	35	4	..
	6	..	..	..
CGW	..	14	2	2
CRI&P	48	50	3	42
CSS&SB	1	..	..	..
D&RGW	3	10	..	..

ROAD TRAIN COMMUNICATIONS (Continued)

DTaI	..	11	4	15
GN	15	..	..	..
	48	44	12	..
	..	3*	..	..
GB&W	2	..	1	..
GM&O	7	7	..	8
MeC	8	..	1	8
MP	66	..	7	..
NYCaStL	11	10	..	10
NP	5	..	..	3
ONL	8	7	..	..
Pennsylvania	..	..	61†	..
ONSaL	60	..	4	..
Reading	38	1	1	..
	..	4*	..	..
	..	1	..	..
StL-SF	13	..	..	27
StLSW	6	2	..	1
SAL	40	40**	..	40
SP	182	43	9	..
	..	1*	..	..
TaNO	22	13	3	..
Spokane Int.	..	1	1	..
T&P	..	..	19	..
WM	2	..	..	3
WP	24	..	12††	..
Totals	815	331	102	284

*Automobile or crane.
†Inductive.
**Equipped with rack and antenna only.
††Used also for yard radio.

M COMMUNICATIONS INSTALLATIONS

UNITED STATES AND CANADA (1951-1955)

	1955	1954	1953	1952	1951
Miles of new or rebuilt pole line	6,456	8,244	7,314	7,101	7,141
Miles of new copper line wire	6,299	9,383	23,902	19,348	14,838
Increase in miles of road dispatched by telephone	1,139	1,708	2,876	2,446	1,600
New mileage of long-distance telephone circuits	38,179	27,956	29,123	50,909	19,201
New mileage of telegraph circuits	67,785	59,257	67,501	113,417	47,260
New mileage of printing telegraph circuits	79,409	61,751	101,432	175,696	28,058
New mileage of communications circuits derived by use of carrier	180,022	139,570	181,010	329,876	84,769
Total mileage of new communications circuits	185,373	148,964	198,036	340,022	94,519
Road train communications					
Number of locomotives equipped	815	768	808	664	613
Number of cabooses or other cars equipped	331	614	500	383	926
Number of fixed wayside stations	102	138	151	80	95
Number of walkie-talkie sets	284	312	566	348	...
	1,532	1,832	2,025	1,475	1,636
Yard radio communications					
Number of locomotives equipped	440	453	424	327	253
Number of fixed stations	102	105	103	99	52
Number of walkie-talkie sets	211	251	188	103	...
	753	809	715	529	305
Yard loudspeaker systems					
Number of control points	80	111	66	161	79
Number of two-way speakers	969	909	1,015	1,906	806
Number of paging speakers	408	596	351	771	305
Total number of speakers	1,377	1,305	1,366	2,677	1,111
Intercommunications systems, freighthouses, etc.					
Number of control points	103	234	187	305	...
Number of telephones	124	383	596	338	...
Number of loudspeakers	403	883	604	779	...
Total number of telephones and speakers	527	1,266	1,200	1,117	...
Total number of communications equipment units	4,189	5,412	5,306	5,798	3,052

N GRADE CROSSING PROTECTION

INSTALLED IN 1955

Railroad	No. of Crossings at Which Flashing-Light Signals Only Were Installed	No. of Crossings at Which Electrically-Operated Gates and Flashing-Light Signals Were Installed
ATaSF	39	20
ACL	25	11
B&O	18	20
B&M	10	2
	3†	..
CN	38	13
CP	26	6
CofG	14	2
C&O	15	9
CaNW	22	24
CB&Q	20	6
CMStP&P	33	12
CRIaP	29	3
Erie	8	13
FEC	6	16
GN	9*	4
IC	15	3
KCS	18	..
LV	4	6
LI	2	10
LaN	10	2
MeC	9	2
MKT	11	1
MP	33	4
GCL	9	..
I-GN	7	..
NYC	39	30
NYCaStL	12	2
NYNHaH	20	3
N&W	12	4
NP	13	3
PE	19	..
Pennsylvania	28	10
Reading	8	3
StL-SF	17	3
SAL	34	12
Soo	20	..
SP	52	16
TaNO	21	1
UP	19	5
Wabash	4	7
On 35 other roads	80	27
	831	315

This table lists only those railroads which installed new protection at 10 or more crossings in 1954, but the totals include the crossings at which protection was installed by other roads.

*Rotating Stop Disc.
†Traffic lights.

EQUIPMENT ORDERS REPORTED IN 1955

By ROBERT B. KEANE
Associate Editor

WITH FIRST-HALF car shortages and prospects of a long-term rise in the nation's business prompting railroads to expand their car-buying programs, the year 1955 wound up as the top car-order year in the last third of a century. According to the American Railway Car Institute, over 160,000 cars were ordered. This total compares with the records of 178,210 in 1922 and 194,353 in 1912. The post-World War II peak was in 1950 when 155,732 cars were ordered, contrasted to only 21,976 in 1954.

The accompanying detailed lists of cars and locomotives ordered by railroads in 1955 were compiled by *Railway Age* from reports from railroads, private car lines, industrial firms and contract builders.

Locomotives ordered for domestic use last year, according to the reports, totaled 1,432 units. Of these, all were diesel-electric except for 12 electrics, 3 diesel-hydraulics, and 15 gas-turbines. There were 108 orders placed with U.S. builders for export to railroads last year, all being diesel-electric. Orders were placed in Canada by Canadian railroads for 336 units.

Immediately below is a breakdown, by types, of freight and passenger cars ordered and delivered in 1954 and through the first 11 months of 1955, as reported to the ARCI. Because of the volume of orders placed in the closing days of December, final figures for last year were not available in time for this issue.

Number and Classification of Passenger-Train Cars Ordered for Domestic Use

(Carbuilder and Railroad Shops)

Year	Coach	Coach Comb.	Bag. & Exp.	Exp., Ref. & Milk	Sleeping & Comb.	Parlor, Club, etc.	Dining	Postal & Comb.	Other	Interurban & M-U.	Self-Prop.	Total
1955*	173	2	85	200	39	13	8	0	2	40	16	578
1954	88	1	1	300	48	10	6	0	4	100	62	620

Number and Classification of Passenger-Train Cars Delivered for Domestic Use

(Carbuilder and Railroad Shops)

Year	Coach	Coach Comb.	Bag. & Exp.	Sleeping & Comb.	Parlor, Club, etc.	Dining	Exp., Ref. & Milk	Other	Total
1955*	135	1	25	16	15	14	497	144	847
1954	187	9	28	85	16	2	19	3	349

Number and Classification of Freight-Train Cars Ordered for Domestic Use, by Type

Year	Box	Flat	Stock	Gondola	Hopper	Tank	Refrig.	Other	Non-Rev.	Total
1955*	60,463	4,667	400	8,118	42,819	7,300	1,973	1,717	323	127,780
1954	11,847	647	0	1,338	2,014	2,349	3,300	425	56	21,976

Freight-Train Cars Delivered for Domestic Use

Year	Carbuilders	Railroad and Private Line Shops	Total
1955*	21,091	12,672	33,763
1954	22,318	13,378	35,696

*1955 figures are for 11 months only. Source: American Railway Car Institute.

1955 FREIGHT CAR ORDERS

Purchaser	No.	Type	Capacity	Length Ft.	Length In.	Construction	Weight	Date Ordered	Date of Delivery	Builder
Akron, Canton & Youngstown	200	Box	100,000	50	6	Steel	51,000	March	June	Pullman-Standard
Alaska	50	Flat	140,000	53	6	Steel	62,800	July	Feb. '56	Warren
	100	Hopper	140,000	40	8	Steel	57,600	January	May-July	Greenville Steel Car
Allegheny & Southern	18	Gondola	200,000	38	0	Steel	63,000	January	December	R. R. Shops
Ann Arbor	7	Caboose	.....	28	0	Steel	48,300	May	November	International
	100	Box	100,000	40	6	Steel	46,500	July	March '56	Pullman-Standard
	300	Box	100,000	40	6	Steel	46,500	December	Feb. '57	Pullman-Standard

FREIGHT CAR ORDERS—UNITED STATES RAILROADS (Continued)

Purchaser	No.	Type	Capacity	Length Ft.	Length In.	Construction		Weight	Date Ordered	Date of Delivery	Builder
Atchison, Topeka & Santa Fe	50	Cov. Hopper	140,000	..	..	Steel		.....	January	December	GATC
	50	Air Dump	100,000	34	0	Steel		62,000	June	Jan. '56	Magor
	1,050	Gondola	140,000	52	..	Steel		.....	Aug.-Oct.	June '56	Pullman-Standard
	500	Gondola	140,000	53	6	Steel		.....	August	July '56	GATC
	200	Box	100,000	50	6	Steel		.....	August	Aug. '56	ACF Industries
	100	Box	100,000	50	6	Steel		.....	August	Sept. '56	ACF Industries
	200	Mech. Refrigerator	100,000	50	0	Steel		.....	March	Dec. '55-Jan. '56	R. R. Shops
	100	Flat	120,000	..	..	Steel		.....	July	Mar. '56	R. R. Shops
	100	Ore	190,000	..	..	Steel		.....	July	Apr. '56	R. R. Shops
	500	Cov. Hopper	140,000	29	3	Steel		.....	November	July '56	Pullman-Standard
	300	Cov. Hopper	140,000	42	0	Steel		61,800	May	Sept.-Oct.	Pullman-Standard
	125	Gondola	140,000	52	6	Steel		.....	December	Aug. '56	Pullman-Standard
Atlanta & West Point	33	Box	100,000	40	0	Steel		46,000	August	June '56	Pullman-Standard
	33	Box	100,000	50	0	Steel		51,000	August	June '56	Pullman-Standard
Atlantic Coast Line	500	Box	100,000	50	6	Steel		68,000	November	1956	ACF Industries
	300	Box	100,000	40	6	Steel		60,000	November	1956	R. R. Shops
	100	Pulpwood	100,000	45	9	Steel		47,500	November	1956	R. R. Shops
	721	Phosphate	100,000	19	11	Steel		41,500	1955	1955-56	R. R. Shops
	5	Air Dump	100,000	34	0	Steel		62,000	1955	Jan. '56	Magor
Baltimore & Ohio	600	Box	100,000	40	6	Steel		.....	August	.....	ACF Industries
	500	Gondola	140,000	46	0	Steel		53,400	June	July-Oct.	Pullman-Standard
	500	Hopper	140,000	40	8	Steel		.....	August	May '56	Pullman-Standard
	200	Cov. Hopper	140,000	29,	3	Steel		50,800	June	Oct.-Nov.	Pullman-Standard
	1,000	Hopper	140,000	40	8	Steel		50,800	August	Jan.-Apr. '56	Bethlehem Steel
	400	Box	100,000	50	6	Steel		.....	August	Apr. '56	GATC
Bangor & Aroostook	65	Pulpwood	100,000	46	6	Steel		45,000	August	Feb. '56	Magor
	115	Pulpwood	140,000	46	6	Steel		58,000	August	Feb. '56	Magor
Bessemer & Lake Erie	20	Cov. Hopper	140,000	29	3	Steel		51,000	April	May	Pullman-Standard
Boston & Maine	1,000	Box	100,000	50	6	Steel		.....	August	Apr.-June '56	Pullman-Standard
	26	Cov. Hopper	140,000	29	3	Steel		.....	November	June '56	Pullman-Standard
	300	Hopper	140,000	42	10	Steel		.....	November	Dec.,'56	Pullman-Standard
	100	Flat	100,000	53	6	Steel		.....	November	Jan. '57	Pullman-Standard
	574	Box	100,000	40	6	Steel		.....	November	Dec. '56	Pullman-Standard
Buffalo Creek	500	Box	120,000	40	6	Steel		45,100	August	June '56	ACF Industries
	500	Box	120,000	40	6	Steel		45,100	August	Sept. '56	Pullman-Standard
Central of Georgia	502	Box	100,000	40	6	Steel	Frame	.....	July	Feb.-June '56	Pullman-Standard
	500	Box	100,000	40	6	Steel		.....	November	Sept. '57	Pullman-Standard
	25	Cov. Hopper	140,000	29	3	Steel		.....	November	Sept. '56	Pullman-Standard
Central Vermont	1	Snow Plow	50,000	44	8	Steel		85,200	May	.....	Russel Snow Plow
	1	Air Dump	100,000	33	8	Steel		68,000	May	Jan. '56	Magor
Chesapeake & Ohio	250	Box	100,000	50	6	Steel		56,000	March	September	Pullman-Standard
	250	Box	100,000	50	6	Steel		56,000	March	September	ACF Industries
	500	Box	100,000	50	6	Steel		56,000	June	December	ACF Industries
	750	Gondola	140,000	46	0	Steel		57,000	October	Oct. '56	ACF Industries
	250	Gondola	140,000	52	6	Steel		60,000	October	Sept. '56	ACF Industries
	500	Box	100,000	50	6	Steel		45,000	November	Jan. '57	ACF Industries
	1,000	Hopper	140,000	40	8	Steel		52,500	June	Jan. '56	R. R. Shops
	500	Hopper	140,000	40	8	Steel		52,500	June	June '56	R. R. Shops
	1,000	Hopper	140,000	40	8	Steel		52,500	November	Nov. '56	R. R. Shops
	4,500	Coal Hopper	140,000	40	8	Steel		52,500	November	Aug. '57	R. R. Shops
	500	Cov. Hopper	140,000	29	3	Steel		52,900	November	.. ..	R. R. Shops
	250	Box	100,000	40	6	Steel		50,000	November	Jan. '57	ACF Industries
	250	Box	100,000	50	6	Steel		56,000	November	Jan. '57	ACF Industries
Chicago & Eastern Illinois	100	Box	100,000	50	6	Steel		61,900	August	June '56	ACF Industries
	100	Box	100,000	50	6	Steel		61,900	August	May '56	R. R. Shops
Chicago & North Western	226	Box	100,000	50	6	Steel		52,000	January	May	Pullman-Standard
	2	Cov. Hopper	140,000	29	3	Steel		51,000	May	June	Pullman-Standard
	153	Cov. Hopper	140,000	29	3	Steel		51,000	June	September	Pullman-Standard
	750	Box	100,000	50	6	Steel		56,400	June	November	Pullman-Standard
	1,578	Box	100,000	40	6	Steel		.....	July	Dec. '55-Mar. '56	Pullman-Standard
	1	Box	100,000	40	6	Steel	Frame	.....	November	Jan. '56	Pullman-Standard
	1,200	Box	100,000	40	6	Steel	Frame	.....	December	Dec. '56	Pullman-Standard
	25	Caboose	60,000	30	0	Steel	Frame	49,000	February	July-Sept.	International
	500	Gondola	140,000	41	6	Steel		.....	July	Mar. '56	GATC
	1,201	Box	.....	..	..	.....		.....	December	June '56	Pullman-Standard
Chicago, Burlington & Quincy	350	Gondola	140,000	52	6	Steel		.....	July	December	R. R. Shops
	350	Box	100,000	50	6	Steel	Sheathed	.....	July	May '56	R. R. Shops
	50	Gondola	140,000	65	6	Steel		.....	July	Jan. '56	R. R. Shops
	190	Flat	100,000	53	6	Steel		.....	July	Feb. '56	R. R. Shops
	10	Flat	125,000	75	0	Steel		.....	July	December	R. R. Shops
	50	Flat	140,000	60	0	Steel		.....	July	June '56	R. R. Shops
	200	Flat	100,000	53	6	Steel		.....	November	Oct. '56	R. R. Shops
	250	Cov. Hopper	140,000	29	3	Steel		.....	November	Dec. '56	R. R. Shops
	300	Box	100,000	50	6	Steel		.....	November	Jan '57	R. R. Shops
	100	Box	100,000	50	6	Steel		.....	November	Feb. '57	R. R. Shops
	50	Flat	140,000	60	0	Steel		.....	November	Mar. '57	R. R. Shops
	600	Gondola	140,000	52	6	Steel		.....	November	Aug. '57	R. R. Shops
	50	Cov. Hopper	140,000	29	6	Steel		.....	November	Dec. '56	GATC
	70	Mech. Refrigerator	140,000	50	6	Steel		.....	November	Sept. '56	.....
	2	Mech. Refrigerator	125,000	50	6	Steel		.....	May	November	Burlington Refrigerator Express
Chicago Great Western	50	Ins. Box	140,000	..	..	....		.....	April	Nov.-Dec.	Thrall
	10	Tank	140,000	45	9	Steel		64,000	July	November	ACF Industries
	50	Cov. Hopper	200,000	40	6	Steel		65,500	June	.....	ACF Industries
	100	Hopper	140,000	40	8	Steel		48,500	November	.....	ACF Industries
	10	Cov. Hopper	140,000	29	3	Steel		61,000	January	April	Pullman-Standard
	200	Box	100,000	40	6	Steel		.....	November	Jan. '57	Pullman-Standard
	10	Caboose	60,000	30	0	Steel	Frame	48,100	January	June	International
	10	Tank	140,000	..	..	Steel		.....	January	July	GATC
	100	Box	100,000	50	6	Steel		.....	November	June '56	GATC
Chicago Heights Terminal Transfer	25	Box	100,000	50	6	Steel		61,900	.....	May '56	ACF Industries
	75	Box	100,000	50	6	Steel		56,300	.....	Apr. '56	ACF Industries
Chicago, Milwaukee, St. Paul & Pacific	100	Caboose	.....	..	..	....		.....	July	1956	Thrall
	100	Cov. Hopper	140,000	29	3	Steel		.....	November	Feb.-Apr. '56	Pullman-Standard
	15	Cov. Hopper	140,000	..	..	Steel		.....	December	Dec. '56	GATC
	35	Cov. Hopper	100,000	..	..	Steel		.....	December	Dec. '56	GATC
Chicago, Rock Island & Pacific	200	Box	100,000	50	6	Steel		.....	June	.....	ACF Industries
	138	Cov. Hopper	140,000	29	3	Steel		50,800	March	June	Pullman-Standard
	225	Cov. Hopper	140,000	29	3	Steel		.....	September	Feb. '56	Pullman-Standard
Chicago South Shore & South Bend	1	Gondola	100,000	46	0	Steel		57,000	.....	October	R. R. Shops
Clinchfield	10	Box	100,000	50	6	Steel		55,000	October	Oct. '56	Pullman-Standard
	50	Cov. Hopper	140,000	29	3	Steel		52,000	October	June '56	Pullman-Standard
Delaware & Hudson	100	Cov. Hopper	140,000	29	3	Steel		51,100	January	March	Pullman-Standard
	250	Box	100,000	40	6	Steel		46,200	September	Aug. '56	Pullman-Standard

FREIGHT CAR ORDERS—UNITED STATES RAILROADS (Continued)

Purchaser	No.	Type	Capacity	Length Ft.	Length In.	Construction	Weight	Date Ordered	Date of Delivery	Builder
Delaware & Hudson	250	Box	100,000	50	6	Steel Frame	.....	September	Aug. '56	Pullman-Standard
Delaware, Lackawanna & Western	32	Air Dump	100,000	34	0	Steel	68,000	October	Jan. '56	Magor
	500	Box	100,000	40	6	Steel	50,500	October	May-June '56	Magor
	400	Box	100,000	40	6	Steel	46,950	October	3rd qtr. '56	ACF Industries
	100	Box	100,000	50	6	Steel	53,100	December	4th qtr. '56	ACF Industries
	100	Cov. Hopper	140,000	29	3	Steel	61,100	October	3rd qtr. '56	ACF Industries
Denver & Rio Grande Western	100	Box	100,000	50	6	Steel	53,100	November	Oct. '56	ACF Industries
	100	Flat	100,000	53	6	Steel	53,400	November	Oct. '56	ACF Industries
	25	Cov. Hopper	140,000	29	3	Steel	51,000	November	Feb. '56	Pullman-Standard
	200	Box	100,000	50	6	Steel	53,100	December	Jan. '57	Pullman-Standard
	25	Hopper	140,000	29	3	Steel	51,000	December	Aug. '56	Pullman-Standard
Detroit & Toledo Shore Line	100	Box	100,000	50	6	Steel	.....	December	July '56	GATC
Detroit, Toledo & Ironton	50	Box	100,000	50	6	Steel	50,000	November	May '57	Pullman-Standard
	125	Box	100,000	40	6	Steel	50,000	November	July '57	Pullman-Standard
	50	Cov. Hopper	140,000	37	9	Steel	51,000	June	August	Pullman-Standard
Duluth, Missabe & Iron Range	100	Hopper	140,000	34	2	Steel	.....	December	Apr.-May '57	Pullman-Standard
	20	Cov. Hopper	140,000	29	3	Steel	.....	December	Nov. '56	Pullman-Standard
Duluth, South Shore & Atlantic	100	Box	100,000	50	6	Steel Frame	.....	December	Dec.'56-Jan.'57	Pullman-Standard
	6	Hopper	.....	..	..	Steel	.....	December	July '56	GATC
Elgin, Joliet & Eastern	25	Caboose	.....	30	0	Steel	.....	September	Feb. '56	International
	100	Cov. Hopper	140,000	29	3	Steel	.....	December	Dec. '56	Pullman-Standard
Erie	300	Box	100,000	50	6	Steel	61,540	April	July-Aug.	Greenville Steel Car
	200	Box	100,000	50	6	Steel	.....	April	Jan. '56	GATC
	550	Box	100,000	50	6	Steel	60,100	July	June-Aug. '56	Greenville Steel Car
	500	Box	100,000	40	6	Steel	.....	August	Aug. '56	GATC
	500	Box	.....	..	..	Steel	.....	December	1956	R. R. Shops
Florida East Coast	35	Hopper	140,000	29	3	Steel Frame	50,900	May	June	Pullman-Standard
	35	Hopper	140,000	29	3	Steel Frame	50,900	November	Aug. '56	Pullman-Standard
Fort Dodge, Des Moines & Southern	25	Pulpwood	100,000	48	8	Steel	54,300	February	Feb. '56	Chi. Frt. Car & Parts
Great Northern	500	Box	100,000	50	6	Steel	56,600	November	Apr.-Sept. '56	R. R. Shops
	500	Box	100,000	40	6	Steel	50,500	November	Apr.-Sept. '56	R. R. Shops
	25	Gondola	140,000	65	0	Steel	65,500	July	December	R. R. Shops
	15	Cov. Hopper	100,000	38	6	Steel	54,000	May	Jan. '56	GATC
	25	Air Dump	100,000	35	0	Steel	60,800	January	June	Baldwin-Lima-Hamilton
	25	Tank	30,293	49	1	Steel	64,960	September	December	ACF Industries
	300	Hopper	140,000	42	10	Steel	.....	December	June '57	Pullman-Standard
	200	Gondola	140,000	52	6	Steel	.....	December	Apr. '57	Pullman-Standard
Gulf, Mobile & Ohio	400	Box	100,000	50	6	Steel	56,500	June	Dec. '55-Jan. '56	ACF Industries
	8	Ore Bodies	190,000	29	8	Steel	61,000	January	May	Pullman-Standard
Illinois Central	100	Cov. Hopper	140,000	41	1	Steel	62,000	January	March	Pullman-Standard
	35	Box	100,000	40	6	Steel	48,000	March	May	R. R. Shops
	10	Cov. Hopper	140,000	29	6	Steel	56,300	April	December	GATC
	2,000	Box	100,000	50	6	Steel	55,000	July	Mar.-Nov. '56	R. R. Shops
International-Great Northern	20	Flat	140,000	45	0	Steel	61,900	April	June-Sept.	R. R. Shops
Jersey Central Lines	100	Cov. Hopper	140,000	29	3	Steel	51,000	November	June '56	Pullman-Standard
Kansas City Southern	600	Box	100,000	50	6	Steel	51,400	July	Feb. '56	Pullman-Standard
	50	Flat	100,000	79	6	Steel	.....	November	1st qtr. '57	Piggy-Back, Inc.—Pullman-Standard
	50	Cov. Hopper	140,000	41	1	Steel	.....	December	Oct. '56	Pullman-Standard
	600	Box	100,000	....	.....		.....	December	Dec. '56-Jan. '57	Pullman-Standard
Kansas, Oklahoma & Gulf	5	Cov. Hopper	140,000	29	3	Steel	.....	December	Oct. 56	Pullman-Standard
Lehigh & New England	300	Box	100,000	40	6	Steel	46,400	August	Mar. '56	Pullman-Standard
Lehigh Valley	100	Box	110,000	50	6	Steel Sheathed	54,000	July	Apr. '56	ACF Industries
	100	Gondola	140,000	65	6	Steel	60,000	July	December	Bethlehem Steel
	100	Gondola	140,000	65	6	Steel	60,000	November	June '56	Bethlehem Steel
	200	Cov. Hopper	140,000	29	3	Steel	50,700	November	June '56	Pullman-Standard
Louisiana & Arkansas	300	Box	100,000	40	6	Steel	38,000	June	Mar. '56	ACF Industries
	75	Cov. Hopper	140,000	29	3	Steel	51,400	July	Feb. '56	ACF Industries
	90	Cov. Hopper	140,000	29	3	Steel	50,800	January	March	Pullman-Standard
Louisville & Nashville	200	Pulpwood	100,000	42	7	Steel	44,000	March	3rd qtr. '55	ACF Industries
	250	Box	100,000	50	6	Steel	61,000	November	4th qtr. '56	Pullman-Standard
	250	Box	100,000	40	6	Steel	45,800	November	4th qtr. '56	Pullman-Standard
	200	Gondola	140,000	65	6	Steel	47,500	November	Aug.-Sept. '56	Greenville Steel Car
	100	Flat	100,000	53	6	Steel	60,000	November	4th qtr. '56	ACF Industries
	200	Pulpwood	140,000	48	0	Steel	62,200	November	4th qtr. '56	ACF Industries
Maine Central	250	Box	100,000	50	6	Steel	53,100	June	1st qtr. '56	ACF Industries
Minneapolis & St. Louis	40	Cov. Hopper	140,000	29	3	Steel	51,000	May	August	Pullman-Standard
	50	Cov. Hopper	140,000	29	3	Steel	51,000	November	Apr. '56	Pullman-Standard
Minneapolis, St. Paul & Sault Ste. Marie	10	Gondola	140,000	65	6	Steel	.....	July	June '56	R. R. Shops
	30	Cov. Hopper	140,000	39	5	Steel	.....	August	June '56	R. R. Shops
	50	Box	100,000	50	6	Steel	.....	November	July '56	R. R. Shops
	500	Box	100,000	40	6	Steel	.....	November	Oct. '56-Mar. '57	R. R. Shops
Minneapolis, Northfield & Southern	2	Box	100,000	40	6	Steel Frame	45,600	November	Mar. '56	Pullman-Standard
Missouri-Kansas-Texas	50	Ins. Box	100,000	50	6	Steel	79,000	January	June-July	Gen. Amer.-Evans
	25	Gondola	140,000	65	6	Steel	64,000	February	July	Bethlehem Steel
	75	Cov. Hopper	140,000	29	3	Steel	51,000	May	August	Pullman-Standard
	25	Flat	100,000	53	6	Steel Frame	64,000	June	July-Aug.	R. R. Shops
	300	Box	100,000	40	6	Steel	46,000	June'	Nov.-Dec.	Pullman-Standard
	150	Box	100,000	50	6	Steel	55,000	June	October	Pullman-Standard
	50	Box	100,000	50	6	Steel	58,000	June	December	Pullman-Standard
	75	Cov. Hopper	140,000	29	3	Steel	50,000	September	Jan. '56	Pullman-Standard
	350	Box	100,000	40	6	Steel	46,000	November	3rd qtr. '56	ACF Industries
	150	Box	100,000	50	6	Steel	55,000	November	3rd qtr. '56	ACF Industries
	50	Box	100,000	50	6	Steel	58,000	November	3rd qtr. '56	ACF Industries
	25	Flat	100,000	53	6	Steel Frame	54,000	November	Mar. '56	R. R. Shops
Missouri Pacific	150	Box	100,000	50	6	Steel	61,800	February	Apr.-May	R. R. Shops
	100	Gondola	140,000	48	6	Steel	61,500	March	June	R. R. Shops
	475	Box	100,000	40	6	Steel	46,600	February	June-Sept.	R. R. Shops
	25	Box	100,000	40	1	Steel	51,900	February	Sept.	R. R. Shops
	50	Flat	100,000	53	6	Steel	52,500	February	Aug.-Sept.	R. R. Shops
	250	Box	100,000	50	6	Steel	61,800	June	Nov.-Dec.	R. R. Shops
	300	Box	100,000	50	6	Steel	54,100	June	Nov.-Dec.	R. R. Shops
	100	Box	100,000	50	6	Steel	.....	June	Jan. '56	R. R. Shops
	250	Box	100,000	40	6	Steel	.....	June	Feb.-Mar. '56	R. R. Shops
	1,000	Box	100,000	40	6	Steel	.....	November	1956	R. R. Shops
	500	Box	100,000	50	6	Steel	.....	November	1956	R. R. Shops
	50	Flat	140,000	43	0	Steel	.....	November	1956	R. R. Shops
Monon	20	Cov. Hopper	140,000	29	3	Steel	.....	December	Oct. '56	Pullman-Standard
	150	Box	100,000	40	6	Steel Frame	.....	December	Feb. '57	Pullman-Standard
	50	Box	100,000	50	6	Steel Frame	.....	December	Dec. '56	Pullman-Standard
New Jersey, Indiana & Illinois	50	Box	100,000	50	6	Steel	56,000	February	June	GATC

FREIGHT CAR ORDERS—UNITED STATES RAILROADS (Continued)

Purchaser	No.	Type	Capacity	Length Ft.	Length In.	Construction	Weight	Date Ordered	Date of Delivery	Builder
	100	Box	100,000	40	6	Steel	46,500	November	4th qtr. '56	ACF Industries
	100	Box	100,000	50	6	Steel	56,000	December	Nov. '56	GATC
New York Central	200	Cov. Hopper	140,000	29	3	Steel	54,000	March	October	Despatch Shops
	200	Box	110,000	50	6	Steel	59,000	July	Mar. '56	Despatch Shops
	500	Box	110,000	50	6	Steel	52,800	July	Mar. '56	Despatch Shops
	300	Box	110,000	50	6	Steel	60,000	July	Jan. '56	Despatch Shops
	300	Box	110,000	50	6	Steel	54,900	July	Jan. '56	Despatch Shops
	1,500	Box	110,000	40	6	Steel	48,000	July	May '56	Despatch Shops
	1,000	Cov. Hopper	140,000	40	8	Steel	.....	December	1957	Pullman-Standard
	500	Hopper	140,000	40	8	Steel	.....	December	Mar. '56	Pullman-Standard
	1,500	Hopper	140,000	40	8	....	.....	December	.....	ACF Industries
	1,000	Hopper	140,000	40	8	Steel	52,000	December	.....	Greenville Steel Car
	500	Hopper	140,000	..	..	Steel	.....	December	Nov. '56	GATC
	3,250	Hopper	140,000	..	..	Steel	.....	December	.....	Despatch Shops
	1,500	Box	.....	40	6	Steel	.....	December	.....	Despatch Shops
	3,500	Box	.....	50	6	Steel	.....	December	.....	Despatch Shops
New York, Chicago & St. Louis	500	Box	100,000	50	6	Steel	58,300	August	June '56	GATC
	100	Flat	140,000	53	6	Steel Frame	61,400	July	July '56	R. R. Shops
	25	Caboose	.....	30	0	Steel Frame	48,000	November	Aug. '56-Aug. '57	R. R. Shops
New York, New Haven & Hartford	500	Box	100,000	50	6	Steel	.....	July	2nd qtr. '56	Pullman-Standard
	200	Flat	100,000	79	6	Steel	.....	October	June-Aug.	Piggy-Back, Inc.—Pullman-Standard
Norfolk & Western	50	Cov. Hopper	140,000	41	1	Steel	62,000	April	May	Pullman-Standard
	50	Cov. Hopper	140,000	29	3	Steel	51,000	October	May '56	Pullman-Standard
	450	Box	100,000	40	6	Steel	43,900	May	September	Pullman-Standard
	450	Box	100,000	40	6	Steel	43,900	October	Sept. '56	Pullman-Standard
	50	Box	100,000	50	6	Steel	58,800	May	August	Pullman-Standard
	50	Box	100,000	50	6	Steel	58,800	October	Sept. '56	Pullman-Standard
	500	Gondola	140,000	46	0	Steel	59,500	July	May '56	ACF Industries
	500	Gondola	100,000	46	0	Steel	53,700	December	Oct. '57	R. R. Shops
	1,000	Hopper	140,000	36	10	Steel	52,400	July	Aug. '56	ACF Industries
	500	Hopper	140,000	36	10	Steel	52,400	September	Feb. '56	Greenville Steel Car
	500	Hopper	140,000	36	10	Steel	52,400	September	Apr. '56	Bethlehem Steel
	1,300	Hopper	140,000	36	10	Steel	52,400	October	Oct. '56	R. R. Shops
	3,500	Coal Hopper	140,000	36	10	Steel	53,000	December	Aug. '57	R. R. Shops
	10	Air Dump	100,000	31	8	Steel	62,500	November	Aug. '56	Baldwin-Lima-Hamilton
Norfolk Southern	50	Gondola	100,000	41	6	Steel	41,500	July	Apr. '56	Magor
	50	Wood Rack	100,000	43	3	Steel	40,000	July	Apr. '56	Magor
Northern Pacific	100	Mech. Refrigerator	140,000	51	4	Steel	88,000	September	Jan. '56	Pacific Car & Fdy.
	300	Box	100,000	50	6	Steel	58,000	September	4th qtr. '56	R. R. Shops
	450	Box	100,000	50	6	Steel	58,000	October	1st qtr. '57	R. R. Shops
	50	Refrigerator	100,000	..	..	Steel	.....	October	2nd qtr. '57	R. R. Shops
	200	Ore	140,000	19	11	Steel	41,700	October	3rd qtr. '57	R. R. Shops
	20	Cov. Hopper	140,000	..	..	Steel	.....	June	December	GATC
Pecos Valley Southern	1	Caboose	60,000	30	0	Steel Frame	47,000	May	September	International
Pennsylvania	300	Cov. Hopper	140,000	35	3	Steel	.....	January	July	R. R. Shops
	200	Flat	140,000	75	0	Steel	.....	March	October	R. R. Shops
	100	Flat	140,000	75	0	Steel	.....	July	December	R. R. Shops
	1,200	Hopper	140,000	42	5	Steel	.....	July	Apr. '56	Bethlehem Steel
	800	Hopper	140,000	43	8	Steel	.....	July	Mar. '56	ACF Industries
	400	Cov. Hopper	140,000	29	3	Steel	51,400	July	December	Pullman-Standard
	1,000	Box	100,000	50	6	Steel	.....	July	Dec. '56	R. R. Shops
	500	Flat	140,000	53	6	Steel	.....	July	May '56	R. R. Shops
	100	Gondola	140,000	65	6	Steel	.....	July	Dec. '56	R. R. Shops
Pittsburgh & Lake Erie	2,000	Hopper	140,000	40	8	Steel	52,200	November	Sept. '56-Jan. '57	Bethlehem Steel
Pittsburg & Shawmut	25	Gondola	100,000	41	6	Steel	42,500	December	Mar. '56	Chi. Frt. Car & Parts
Pittsburgh & West Virginia	50	Cov. Hopper	140,000	29	3	Steel	50,800	February	March	Pullman-Standard
	50	Cov. Hopper	140,000	29	3	Steel	.....	December	June '56	Pullman-Standard
	100	Box	100,000	50	6	Steel Frame	.....	December	Jan.-Mar. '57	Pullman-Standard
	100	Gondola	140,000	52	6	Wood	60,700	December	Feb. '57	Bethlehem Steel
Reading	700	Hopper	110,000	33	0	Steel	39,500	July	Oct.-Nov.	Bethlehem Steel
	130	Cov. Hopper	140,000	29	3	Steel	49,200	August	Feb. '56	ACF Industries
	1,000	Hopper	140,000	40	8	Steel	55,100	Nov.-Dec.	July-Aug. '56	Bethlehem Steel
	500	Gondola	140,000	65	6	Steel	64,000	November	July '56	Bethlehem Steel
	400	Box	100,000	40	6	Steel	48,000	November	Aug. '56	ACF Industries
	1,000	Hopper	110,000	33	0	Steel	39,500	December	Dec. '56-Feb. '57	Bethlehem Steel
Rutland	100	Box	100,000	40	6	Steel	45,900	July	Feb. '56	Pullman-Standard
	100	Box	100,000	40	6	Steel	45,900	October	Oct. '56	Pullman-Standard
	15	Cov. Hopper	140,000	29	3	Steel	51,000	September	Feb. '56	Pullman-Standard
Sacramento Northern	100	Box	100,000	50	6	Steel	.....	August	December	Pullman-Standard
Savannah & Atlanta	302	Box	100,000	40	6	Steel	.....	July	May '56	Pullman-Standard
Seaboard Air Line	1,000	Box	100,000	50	6	Steel	.....	June	Feb.-May '56	Pullman-Standard
	200	Cement	140,000	29	3	Steel	51,400	June	Feb. '56	ACF Industries
	200	Phosphate	140,000	36	6	Steel	.....	June	Dec. '55-Jan. '56	Bethlehem Steel
	200	Gondola	140,000	41	6	Steel	44,000	November	Aug. '56	Magor
	500	Coal Hopper	140,000	41	8	Steel	.....	November	1st qtr. '57	Pullman-Standard
	300	Wet Rock	140,000	29	10	Steel	.....	November	Jan. '57	Bethlehem Steel
	25	Pulpwood	100,000	43	3	Steel	42,000	December	Apr. '56	Magor
	10	Gondola	100,000	41	6	Steel	39,000	December	Apr. '56	Magor
Soo Line	10	Gondola	140,000	65	6	Steel	.....	July	June '56	R. R. Shops
	20	Cov. Hopper	140,000	39	5	Steel	.....	August	June '56	R. R. Shops
	50	Box	100,000	50	6	Steel	.....	November	July '56	R. R. Shops
	250	Box	100,000	40	6	Steel	.....	November	4th qtr. '56	R. R. Shops
	250	Box	100,000	40	6	Steel	.....	November	1st qtr. '57	R. R. Shops
Southern	1,000	Box	100,000	50	6	Steel	60,800	January	Apr.-July	Pullman-Standard
	200	Box	100,000	50	6	Steel	65,900	January	July	Pullman-Standard
	50	Cov. Hopper	140,000	38	6	Steel	54,700	April	December	GATC
	750	Hopper	140,000	41	8	Steel	55,000	June	Nov. '55-Jan. '56	Pullman-Standard
	750	Hopper	140,000	41	8	Steel	53,000	June	Nov. '55-Jan. '56	ACF Industries
	100	Hopper	140,000	40	8	Steel	57,000	December	Nov. '56	Pullman-Standard
	100	Flat	140,000	53	6	Steel	61,800	December	June '56	Thrall
	100	Gondola	140,000	65	6	Steel	68,000	December	Nov. '56	Greenville Steel Car
	2,000	Box	100,000	50	6	Steel	60,800	December	Oct. '56-Mar. '57	Pullman-Standard
	300	Coal Hopper	140,000	41	8	Steel	55,000	December	Aug.-Oct. '56	Pullman-Standard
	6	Ballast	140,000	40	6	Steel	.....	December	Aug.-Oct. '56	Pullman-Standard
	225	Box	100,000	50	6	Steel Frame	.....	December	Oct. '56	Pullman-Standard
Southern Pacific	750	Box	100,000	50	6	Steel	57,100	March	Aug. '55-Apr. '56	R. R. Shops
	2,750	Box	100,000	50	6	Steel	57,100	August	Oct. '55-Sept. '56	R. R. Shops
	600	Box	100,000	50	6	Steel	62,100	August	Sept.-Nov. '56	R. R. Shops
	250	Box	100,000	50	6	Steel	67,500	August	Dec. '55-Dec. '56	R. R. Shops

FREIGHT CAR ORDERS—UNITED STATES RAILROADS (Continued)

Purchaser	No.	Type	Capacity	Length Ft.	Length In.	Construction	Weight	Date of Weight	Date of Delivery	Builder
	100	Air Dump	100,000	29	8	Steel	60,900	April	Dec. '55-Mar. '56	Baldwin-Lima-Hamilton
	10	Air Dump	100,000	30	6	Steel	57,500	April	Jan. '56	Magor
	275	Hopper	140,000	31	6	Steel	46,700	October	Aug.-Sept. '56	ACF Industries
	150	Flat	100,000	80	0	Steel	48,500	November	.....	R. R. Shops
	500	Gondola	140,000	51	4	Steel	69,500	November	.....	R. R. Shops
	500	Hopper	140,000	29	3	Steel	51,000	November	.....	R. R. Shops
	1,000	Hopper	140,000	31	6	Steel	46,700	November	.....	R. R. Shops
	100	Flat	100,000	80	0	Steel	48,500	November	.....	R. R. Shops
	2,600	Box	100,000	50	6	Steel	58,200	November	.....	R. R. Shops
	500	Box	100,000	50	6	Steel	59,800	November	.....	R. R. Shops
	500	Box	100,000	40	6	Steel	44,200	November	.....	R. R. Shops
	700	Gondola	100,000	41	6	Steel	50,100	November	.....	R. R. Shops
	100	Gondola	140,000	40	1	Steel	55,200	November	.....	R. R. Shops
	800	Flat	140,000	53	6	Steel	58,900	November	.....	R. R. Shops
	2,400	Box	100,000	50	6	Steel	58,200	November	.....	R. R. Shops
	250	Gondola	140,000	41	6	Steel	43,500	November	.....	R. R. Shops
	100	Pulpwood	100,000	38	6	Steel	42,900	August	Jan.-May '56	R. R. Shops
	350	Cov. Hopper	140,000	41	1	Steel	51,000	May	August	Pullman-Standard
	200	Box	100,000	50	6	Steel	56,400	May	August	Pullman-Standard
	500	Cov. Hopper	140,000	29	3	Steel	....	December	Jan. '57	Pullman-Standard
Spokane, Portland & Seattle	500	Box	100,000	50	6	Steel	.....	November	4th qtr. '56	Gt. Northern Shops
St. Louis-San Francisco	700	Box	100,000	50	6	Steel	.....	June	Jan. '56	Pullman-Standard
	650	Box	100,000	40	6	Steel	.....	June	Apr. '56	Pullman-Standard
	200	Cov. Hopper	140,000	41	1	Steel	.....	June	Jan. '56	Pullman-Standard
	200	Gondola	140,000	65	6	Steel	.....	June	Apr. '56	Pullman-Standard
	100	Flat	100,000	53	6	Steel	.....	July	Apr. '56	R. R. Shops
	150	Wood Rack	140,000	45	3	Steel	.....	July	Apr. '56	R. R. Shops
	400	Gondola	140,000	52	6	Steel	.....	November	1957	Pullman-Standard
	500	Hopper	100,000	33	0	Steel	.....	November	1957	Pullman-Standard
	800	Box	100,000	40	6	Steel	.....	November	1957	Pullman-Standard
	100	Cov. Hopper	140,000	41	1	Steel	.....	November	June '56	Pullman-Standard
	100	Wood Rack	140,000	45	3	Steel	.....	November	1957	R. R. Shops
	100	Flat	100,000	53	6	Steel	.....	November	1957	R. R. Shops
	75	Caboose	.....	..	..	Steel	.....	November	1957	.....
St. Louis Southwestern	400	Box	100,000	40	6	Steel	45,900	February	March	Pullman-Standard
	150	Box	100,000	40	6	Steel	46,500	July	Sept.-Oct.	Pullman-Standard
	25	Box	100,000	50	6	Steel	74,000	June	August	Pullman-Standard
	350	Box	100,000	50	6	Steel	56,800	July	Aug.-Oct.	Pullman-Standard
	50	Pulpwood	100,000	38	0	Steel	44,100	March	May-July	R. R. Shops
	25	Hopper	140,000	29	3	Steel	50,900	July	October	Pullman-Standard
	75	Hopper	140,000	41	0	Steel	61,200	July	October	Pullman-Standard
	75	Flat	100,000	53	6	Steel	52,300	July	November	Greenville Steel Car
	25	Gondola	140,000	65	6	Steel	58,200	August	December	Bethlehem Steel
	50	Pulpwood	100,000	38	0	Steel	44,100	July	Dec.-Jan. '56	R. R. Shops
	350	Box	100,000	40	6	Steel	.....	November	June '56	Pullman-Standard
	350	Box	100,000	50	6	Steel	.....	November	June '56	Pullman-Standard
	700	Box	100,000	40	6	Steel Frame	.....	December	July '57	Pullman Standard
Texas-Mexican	25	Box	100,000	40	6	Steel Frame	.....	December	Aug. '57	Pullman-Standard
Texas &]Pacific	47	Flat	100,000	53	6	Steel	52,900	March	Jan. '56	R. R. Shops
	50	Box	100,000	50	6	Steel	70,800	March	Mar. '56	R. R. Shops
	100	Box	100,000	50	6	Steel	46,700	March	Feb.-Apr. '56	R. R. Shops
Tidewater Southern	25	Box	100,000	50	5	Steel	51,900	March	July	Pullman-Standard
Trailer Train Co.	200	Flat	.....	75	0	Steel	76,000	October	.....	ACF Industries
Union	40	Flat	140,000	53	6	Steel	.....	December	May '57	Pullman-Standard
Union Pacific	100	Caboose	80,000	..	..	Steel	.....	February	November	R. R. Shops
	100	Ins. Box	100,000	50	6	Steel	.....	February	July	R. R. Shops
	300	Flat	100,000	42	6	Steel	.....	February	November	R. R. Shops
	200	Auto Box	100,000	50	6	Steel	.....	February	November	R. R. Shops
	300	Stock	80,000	40	6	Steel	.....	February	Dec.-Jan. '56	R. R. Shops
	300	Auto Box	100,000	50	6	Steel	.....	July	1st qtr. '56	R. R. Shops
	200	Box	100,000	50	6	Steel	.....	July	1st qtr. '56	R. R. Shops
	500	Box	100,000	40	6	Steel	.....	November	2nd qtr. '56	R. R. Shops
	300	Box	100,000	50	6	Steel	.....	November	3rd qtr. '56	R. R. Shops
	500	Auto Box	100,000	50	6	Steel	.....	November	3rd-4th qtr. '56	R. R. Shops
	300	Flat	140,000	53	6	Steel	.....	November	1st-2nd qtr. '56	R. R. Shops
	800	Box	100,000	40	6	Steel	.....	December	1st qtr. '57	R. R. Shops
	200	Ins. Box	100,000	50	6	Steel	.....	December	2nd qtr. '57	R. R. Shops
	50	Cov. Hopper	140,000	39	6	Steel	.....	February	Dec. '55-Mar. '56	GATC
	100	Cov. Hopper	140,000	39	6	Steel	.....	November	1956-57	GATC
	400	Cov. Hopper	140,000	29	3	Steel	.....	November	October	Pullman-Standard
Virginian	300	Hopper	140,000	40	0	Steel	54,700	May	Mar. '56	R. R. Shops
	500	Hopper	110,000	33	0	Steel	43,700	July	Oct. '56	R. R. Shops
	500	Hopper	140,000	40	0	Steel	54,700	October	Apr. '57	R. R. Shops
Wabash	97	Gondola	140,000	52	6	Steel	58,000	May	Mar.-Apr. '56	R. R. Shops
	100	Flat	100,000	53	6	Steel	57,000	July	Dec.-Feb. '56	R. R. Shops
	50	Flat	140,000	60	0	Steel	68,000	July	May '56	R. R. Shops
	10	Caboose	.....	28	0	Steel	48,300	May	October	International
	50	Gondola	140,000	65	6	Steel	58,200	August	December	Bethlehem Steel
	300	Box	100,000	40	6	Steel	46,500	August	May '56	ACF Industries
	200	Box	100,000	50	6	Steel	56,000	August	June '56	ACF Industries
	100	Cov. Hopper	140,000	41	1	Steel	61,700	October	Apr. '56	Pullman-Standard
	20	Flat	140,000	75	0	Steel	78,400	July	July	Pennsylvania R. R. Shops
	250	Box	100,000	50	6	Steel	56,000	February	June	GATC
	400	Box	100,000	40	6	Steel	46,500	November	4th qtr. '56	ACF Industries
	800	Box	100,000	50	6	Steel	56,000	December	Nov. '56	GATC
	50	Gondola	140,000	65	6	Steel	58,200	November	June '56	Bethlehem Steel
	100	Cov. Hopper	140,000	41	1	Steel	61,700	November	July-Aug. '56	Pullman-Standard
	400	Box	100,000	40	6	Steel	46,500	November	1st qtr. '57	R. R. Shops
	100	Gondola	140,000	..	..	Steel	.....	December	.....	Bethlehem Steel
	50	Flat	.....	75	0	Steel	.....	November	.....	R. R. Shops
Western of Alabama	17	Box	100,000	40	0	Steel	46,000	August	June '56	Pullman-Standard
	17	Box	100,000	50	0	Steel	51,000	August	June '56	Pullman-Standard
Western Maryland	100	Cov. Hopper	140,000	29	3	Steel	51,300	March	June	Greenville Steel Car
	50	Box	100,000	50	6	Steel	57,600	March	August	GATC
	400	Hopper	140,000	40	8	Steel	55,800	June	Oct.-Nov.	Bethlehem Steel
	800	Hopper	140,000	40	8	Steel	54,800	October	June '56	Bethlehem Steel
	50	Flat	100,000	50	6	Steel	52,900	October	May '56	Greenville Steel Car
	4	Air Dump	100,000	..	..	Steel	.....	.....	.....	Baldwin-Lima-Hamilton
Western Pacific	350	Box	100,000	50	6	Steel Frame	.....	March	June-Dec.	Pullman-Standard
	20	Box	100,000	50	6	Steel Frame	64,300	March	August	Pullman-Standard
	50	Flat	100,000	56	0	Steel Frame	55,900	March	July-Aug.	Pullman-Standard
	200	Box	100,000	50	6	Steel Frame	63,500	June	Sept.-Dec.	Pullman-Standard
	10	Cov. Hopper	140,000	29	3	Steel	.....	December	June '56	Pullman-Standard
	225	Box	100,000	50	6	Steel Frame	.....	December	Oct.-Dec. '56	Pullman-Standard
	100	Hopper	140,000	..	..	.....	.....	December	Apr.-June '57	ACF Industries
	50	Ins. Box	.....	50	6	.....	.....	December	Apr. '56	Pacific Car & Fdy.
	35	Caboose	.....	30	0	Steel Frame	50,100	April	Nov. '55-Jan. '56	International

Other Freight Car Orders—For Service in the United States

American Refrigerator Transit	100	Ins. Box	140,000	50	0	3	Steel		78,000	February	Aug.-Sept.	Pacific Car & Fdy.
	40	Ins. Box	100,000	40	0		Steel		65,000	February	September	Pacific Car & Fdy.
Burlington Refrigerator Express Co.	3	Mech. Refrigerator	128,000	44	5		Steel		81,300	February	Oct.-Dec.	Company Shops
	70	Mech. Refrigerator	128,000	44	5		Steel		81,300	October	July-Sept. '56	Company Shops
Fruit Growers Express	400	Mech. Refrigerator	128,000	44	5		Steel		81,300	July	Jan.-June '56	Company Shops
	25	Ins. Box	130,000	37	8		Steel		80,000	September	Jan.-June '56	Company Shops
Merchants Despatch	750	Refrigerator	70,000	33	3		Steel		58,000	December	June '56	Pacific Car & Fdy.
	50	Mech. Refrigerator	120,000	44	5		Steel		88,000	December	June '56	Pacific Car & Fdy.
North American Car Corp.	1	Cov. Hopper	140,000	41	1		Steel		61,500	September	October	Pullman-Standard
	50	Cov. Hopper	140,000	29	3		Steel		51,100	July	November	Pullman-Standard
	30	Cov. Hopper	140,000	29	3		Steel		51,100	May	December	Pullman-Standard
	50	Cov. Hopper	140,000	29	3		Steel		51,100	March	April	Pullman-Standard
	8	Cov. Hopper	140,000	42	0		Steel		61,800	February	March	Pullman-Standard
	10	Cov. Hopper	140,000	29	3		Steel		50,800	Apr.-July	August	Pullman-Standard
	1	Cov. Hopper	140,000	42	0		Steel		.....	December	Mar. '56	Pullman-Standard
	13	Tank	80,000	..	..		Steel		.....	Apr.-July	June-Dec.	ACF Industries
Northern Refrigerator Line	250	Refrigerator	70,000	33	3		Steel		58,000	December	June '56	Pacific Car & Fdy.
Pacific Fruit Express	200	Mech. Refrigerator	130,000	44	6		Steel	Frame	78,000	December	Apr.-July '57	SP Equipment Co.
	1,800	Refrigerator	78,000	33	3		Steel	Frame	58,000	December	Dec. '56-June '57	SP Equipment Co.
Shippers Car Line	227	Tank	.....	..	..		Steel		.....	.....	1955-1956	ACF Industries
[illegible]	100	Container	100,000	52	4		Steel		.....	November	.....	ACF Industries
	1	Box	140,000	40	6		Steel		.....	July	.....	ACF Industries
SHPX Third Corp.	700	Tank	.....	..	..		Steel		.....		1955-1956	ACF Industries
	85	Cov. Hopper	.....	..	..		Steel		.....	September	.....	ACF Industries
Union Tank Car Co.	1,528	Tank	100,000	..	..		.....		53,000	September	1955-56	Company Shops
	22	Tank	100,000	..	..		.....		54,500	July	1955-56	Company Shops
	1,699	Tank	100,000	..	..		.....		70,000	June	1955-56	Company Shops
	534	Tank	100,000	..	..		.....		47,000	June	1955-56	Company Shops
	146	Tank	100,000	..	..		.....		51,000	November	1956	Company Shops
Western Fruit Express Co.	100	Ins. Box	128,000	50	0		Steel		69,100	June	Oct.-Dec.	Pacific Car & Fdy.

Freight Car Orders—Canada

Canadian General Transit Co.	11	Tank	100,000	40	4		Steel		64,500	March	June	Canadian Car & Fdy.
	8	Tank	80,000	34	8		Steel		60,500	April	Nov.-Dec.	Canadian Car & Fdy.
	6	Tank	140,000	39	2		Steel		86,500	April	Nov.-Dec.	Canadian Car & Fdy.
	40	Tank	100,000	40	4		Steel		64,500	November	June '56	Canadian Car & Fdy.
	20	Tank	100,000	40	1		Steel	Underframe	48,500	November	June '56	Canadian Car & Fdy.
	2	Box Car Tank	140,000	45	7		Steel		112,300	December	July-Sept. '56	Canadian Car & Fdy.
Canadian National	200	Refrigerator	100,000	44	6		Steel		64,000	April	Sept.-Nov.	National Steel Car
	250	Box	100,000	44	4		Steel		44,000	July	Feb. '56	National Steel Car
	500	Box	100,000	40	6		Steel		44,000	July	December	Canadian Car & Fdy.
	1,000	Box	100,000	44	4		Steel		44,000	July	Mar. '56	Eastern Car
	30	Ore	160,000	28	0		Steel		48,300	April	November	Marine Industries
	200	Gondola	140,000	57	6		Steel		52,800	July	Mar. '56	Canadian Car & Fdy.
	25	Auto Box	100,000	78	2		Steel		70,000	August	May-June '56	Canadian Car & Fdy.
	900	Box	100,000	44	4		Steel		44,000	November	June-July '56	Canadian Car & Fdy.
	400	Box	100,000	44	4		Steel		44,000	November	May-June '56	National Steel Car
	700	Box	100,000	44	4		Steel		44,000	November	Mar.-June '56	Eastern Car
	100	Flat	100,000	55	7		Steel	Underframe	50,800	November	Aug. '56	Canadian Car & Fdy.
	200	Hopper	140,000	45	0		Steel		53,600	November	June-July '56	Marine Industries
	100	Gondola	140,000	57	6		Steel		52,800	November	Aug.-Sept.'56	Eastern Car
	200	Refrigerator	100,000	44	6		Steel		64,000	November	Aug. '56	National Steel Car
	25	Refrigerator	60,000	29	5		Steel	Frame	48,200	November	Sept. '56	National Steel Car

Freight Car Orders—for Export

Canadian Pacific	200	Flat	140,000	52	6		Steel	Underframe	52,000	June	September	Canadian Car & Fdy.
	200	Gondola	157,000	52	6		Steel		53,100	June	November	Eastern Car
	200	Hopper	140,000	40	8		Steel		48,100	June	December	National Steel Car
	40	Cov. Hopper	140,000	36	0		Steel		50,500	June	October	Marine Industries
	500	Box	100,000	40	6		Steel	Frame	42,500	June	August	Canadian Car & Fdy.
	500	Box	100,000	40	6		Steel		43,400	June	November	National Steel Car
	1,000	Box	100,000	40	6		Steel	Frame	.....	November	June '56	Canadian Car & Fdy.
	100	Ore	150,000	..	..		Steel		.....	November	June '56	Canadian Car & Fdy.
	1,000	Box	100,000	40	6		Steel		44,000	November	Apr. '56	National Steel Car
	350	Hopper	140,000	40	8		Steel		48,100	November	Sept. '56	National Steel Car
Roberval & Saguenay	28	Hopper	140,000	36	0		Steel	Underframe	36,800	March	July	Canadian Car & Fdy.
Sydney & Louisburg	1	Caboose	.....	27	0		Steel		40,900	.....	June	R. R. Shops
Toronto, Hamilton & Buffalo	20	Cov. Hopper	140,000	36	0		Steel		52,500	June	December	National Steel Car
Canadian National	100	Cov. Hopper	140,000	42	0		Steel		.....	December	Oct. '56	Pullman-Standard
India	1,650	Gondola	45,000	19	6		Steel		22,000	January	July-Aug.	Magor
Mozambique Rys.	38	Tank	100,000	35	0		Steel		46,000	February	November	Magor
National of Mexico	20	Air Dump	100,000	34	0		Steel		62,000	November	Mar. '56	Magor
Saudi Arabia Ry.	1	Tank	100,000	..	..		Steel		.....	April	October	GATC
Venezuela	200	Gondola	200,000	..	..		Steel		.....	September	.....	Magor

P 1955 LOCOMOTIVE ORDERS

Purchaser	No.	Wheel Arrangement	Service	Type	Weight Lb.	Horsepower	Date of Order	Date of Delivery	Builder
Akron, Canton & Youngstown	1	B-B	Rd.-Sw.	Diesel-Elec.	246,000	1,600	September	December	Fairbanks, Morse
Aliquippa & Southern	4	B-B	Switching	Diesel-Elec.	240,000	1,200	February	August	Electro-Motive
[illegible]	3	B-B	Switching	Diesel-Elec.	240,000	1,200	October	Apr. '56	Electro-Motive
Ashley, Drew & Northern	1	....	Switching	Diesel-Elec.	248,000	1,200	June	December	Electro-Motive
Atchison, Topeka & Santa Fe	10	....	Switching	.....	.....	2,250	June	Sept.-Oct.	.....
	9	....	Freight	.....	.....	7,000	July	May-June	.....
	32	....	Freight	.....	.....	1,750	September	1956	.....
	18	B-B	Switching	Diesel-Elec.	246,000	1,200	September	Dec. '55-Apr. '56	Fairbanks, Morse
Atlanta & St. Andrews Bay	2	C-C	Rd.-Sw.	Diesel-Elec.	360,000	1,750	July	Jan. '56	Electro-Motive
Bellefonte Central	1	....	Switching	Diesel-Elec.	248,000	1,200	August	June '56	Electro-Motive
Boston & Maine	2	B-B	Passenger	Diesel-Elec.	200,000	1,200	September	1956	Fairbanks, Morse
Central of Georgia	6	C-C	Rd.-Sw.	Diesel-Elec.	330,000	1,750	.....	June	Electro-Motive
Central Vermont	2	B-B	Switching	Diesel-Elec.	232,190	1,000	August	September	Alco Products
Chesapeake & Ohio	9	B-B	Rd.-Sw.	Diesel-Elec.	248,000	1,750	January	December	Electro-Motive
	40	B-B	Rd.-Sw.	Diesel-Elec.	248,000	1,750	May	August	Electro-Motive
	40	B-B	Rd.-Sw.	Diesel-Elec.	248,000	1,750	June	October	Electro-Motive
	40	B-B	Rd.-Sw.	Diesel-Elec.	248,000	1,750	September	Feb. '56	Electro-Motive
	44	B-B	Rd.-Sw.	Diesel-Elec.	248,000	1,750	September	May '56	Electro-Motive
	50	B-B	Rd.-Sw.	Diesel-Elec.	248,000	1,750	December	Sept. '56	Electro-Motive
	3	B	Pusher	Diesel-Elec.	110,000	300	May	June '56	General Electric
Chicago & Illinois Midland	2	B-B	Switching	Diesel-Elec.	248,000	1,200	March	April	Electro-Motive
	4	B-B	Switching	Diesel-Elec.	248,000	1,200	July	November	Electro-Motive
	5	C-C	Freight	Diesel-Elec.	330,000	1,750	July	November	Electro-Motive

Purchaser	No.	Wheel Arrangement	Service	Type	Weight Lb.	Horsepower	Date of Order	Date of Delivery	Builder
Chicago & North Western	10	C-C	Rd.-Sw.	Diesel-Elec.	300,000	1,600	April	September	Fairbanks, Morse
	5	B-B	Rd.-Sw.	Diesel-Elec.	248,000	1,750	.....	September	Electro-Motive
	4	C-C	Rd.-Sw.	Diesel-Elec.	330,000	1,750	.....	November	Electro-Motive
Chicago, Burlington & Quincy	30	C-C	Rd.-Sw.	Diesel-Elec.	322,827	1,750	January	July-Oct.	Electro-Motive
	10	B-B	Switching	Diesel-Elec.	247,325	1,200	January	October	Electro-Motive
	10	....	Passenger	Diesel-Elec.	223,680	2,400	January	December	Electro-Motive
Chicago, Milwaukee, St. Paul & Pacific	8	B-B	Rd.-Sw.	Diesel-Elec.	246,000	1,600	September	Dec. '55-Feb. '56	Fairbanks, Morse
	6	B-B	Freight	Diesel-Elec.	248,000	1,750	.....	November	Electro-Motive
Cincinnati, New Orleans & Texas Pacific	5	C-C	Freight	Diesel-Elec.	375,000	2,400	January	June	Fairbanks, Morse
Clinchfield	5	B-B	Freight	Diesel-Elec.	248,000	1,750	.....	April	Electro-Motive
Cuyahoga Valley	2	B-B	Switching	Diesel-Elec.	230,000	800	October	Feb. '56	Electro-Motive
	3	B-B	Switching	Diesel-Elec.	.....	1,200	October	May '56	Electro-Motive
Dansville & Mount Morris	1	B-B	Switching	Diesel-Elec.	88,000	400	November	July '56	General Electric
Dardanelle & Russellville	1	B-B	Switching	Diesel-Elec.	90,000	300	March	April	General Electric
Denver & Rio Grande Western	12	B-B	Rd.-Sw.	Diesel-Elec.	248,000	1,750	January	May	Electro-Motive
	1	B-B	Road	Diesel-Elec.	968,000	7,000	January	September	Electro-Motive
	2	B-B	Road	Diesel-Elec.	242,000	1,750	January	September	Electro-Motive
	12	....	Rd.-Sw.	.....	.....	....	December	July '56	Electro-Motive
Detroit, Toledo & Ironton	10	B-B	Rd.-Sw.	Diesel-Elec.	248,000	1,750	June	December	Electro-Motive
Duluth, Missabe & Iron Range	10	C-C	Switching	Diesel-Elec.	330,000	1,750	.....	1956	Electro-Motive
Erie	6	B-B	Freight	Diesel-Elec.	241,000	1,750	November	June '56	Electro-Motive
Ferrocarriles Nacionales de Mexico	2	....	Rd.-Sw.	Diesel-Elec.	360,000	1,600	June	November	Alco Products
	6	....	Rd.-Sw.	Diesel-Elec.	158,500	....	June	.....	Electro-Motive
Ft. Dodge, Des Moines & Southern	4	B-B	Rd.-Sw.	Diesel-Elec.	140,000	660	June	September	General Electric
Grand Trunk Western	9	B-B	Switching	Diesel-Elec.	232,390	1,000	August	Sept.-Oct.	Alco Products
	4	B-B	Freight	Diesel-Elec.	247,620	1,200	January	May-June	Electro-Motive
	2	B-B	Switching	Diesel-Elec.	233,900	1,000	January	May	Alco Products
	3	B-B	Switching	Diesel-Elec.	246,320	1,200	January	April	Electro-Motive
Graysonia, Nashville & Ashdown	1	....	Switching	Diesel-Elec.	245,000	1,000	.....	November	Alco Products
Great Northern	10	B-B	Rd.-Sw.	Diesel-Elec.	246,000	1,750	June	Dec. '55-Mar. '56	Electro-Motive
	9	B-B	Rd.-Sw.	Diesel-Elec.	246,000	1,750	December	Apr. '56	Electro-Motive
	5	C-C	Rd.-Sw.	Diesel-Elec.	345,000	1,750	December	June '56	Electro-Motive
Green Bay & Western	2	B-B	Rd.-Sw.	Diesel-Elec.	246,300	1,600	April	June	Alco Products
Gulf, Mobile & Ohio	4	B-B	Frt.-Pass.	Diesel-Elec.	240,000	1,600	April	July	Alco Products
Illinois Central	70	....	Switching	Diesel-Elec.	246,000	1,750	October	Dec. '55-Jan. '56	Electro-Motive
	2	....	Passenger	Diesel-Elec.	332,000	2,400	November	Dec. '55-Feb. '56	Electro-Motive
Illinois Terminal	12	B-B	Switching	Diesel-Elec.	248,000	1,200	May	Nov.-Dec.	Electro-Motive
Jersey Central Lines	6	C-C	Rd.-Sw.	Diesel-Elec.	375,000	2,400	September	Mar. '56	Fairbanks, Morse
Kansas City Connecting	1	B-B	Switching	Diesel-Elec.	139,600	600	July	October	General Electric
Lake Superior & Ishpeming	1	B-B	Rd.-Sw.	Diesel-Elec.	240,000	1,600	April	August	Alco Products
	1	B-B	Rd.-Sw.	Diesel-Elec.	240,000	1,600	September	October	Alco Products
Long Island	10	B-B	Rd.-Sw.	Diesel-Elec.	255,000	1,600	July	September	Alco Products
Louisville & Nashville	10	B-B	Frt.-Sw.	Diesel-Elec.	240,000	1,750	July	December	Electro-Motive
	20	B-B	Frt.-Sw.	Diesel-Elec.	240,000	1,600	July	December	Alco Products
Montana Western	1	B-B	Switching	Diesel-Elec.	160,000	500	February	February	Baldwin-Lima-Hamilton
New Orleans Public Belt	2	B-B	Switching	Diesel-Elec.	240,000	1,200	July	November	Baldwin-Lima-Hamilton
New York Central	21	B-B	Rd.-Sw.	Diesel-Elec.	254,000	1,750	June	December	Electro-Motive
	74	B-B	Rd.-Sw.	Diesel-Elec.	247,000	1,750	June	Mar. '56	Electro-Motive
	16	B-B	Switching	Diesel-Elec.	230,000	900	June	December	Electro-Motive
	1	B-O	Passenger	Diesel-Hyd.	150,000	1,000	March	Apr. '56	Baldwin-Lima-Hamilton
New York, Chicago & St. Louis	29	B-B	Rd.-Sw.	Diesel-Elec.	244,000	1,750	January	June-July	Electro-Motive
	3	B-B	Rd.-Sw.	Diesel-Elec.	251,000	1,750	January	June-July	Electro-Motive
	24	B-B	Rd.-Sw.	Diesel-Elec.	244,000	1,750	November	Sept.-Oct. '56	Electro-Motive
	4	B-B	Rd.-Sw.	Diesel-Elec.	251,000	1,750	November	July '56	Electro-Motive
	2	B-B	Rd.-Sw.	Diesel-Elec.	251,000	1,750	November	July '56	Electro-Motive
	5	B-B	Rd.-Sw.	Diesel-Elec.	246,200	1,800	November	Mar. '56	Alco Products
New York, New Haven & Hartford	20	B-B	Switching	Diesel-Elec.	248,000	1,200	August	Jan.-Mar. '56	Electro-Motive
	2	....	Passenger	Diesel-Elec.	.....	1,720	June	Apr. '56	Fairbanks, Morse
	2	B-O	Passenger	Diesel-Hyd.	155,000	1,000	March	Apr. '56	Baldwin-Lima-Hamilton
Norfolk & Western	4	B-B	Freight	Diesel-Elec.	247,000	1,750	May	October	Electro-Motive
	21	B-B	Freight	Diesel-Elec.	247,000	1,750	November	Aug. '56	Electro-Motive
	4	B-B	Freight	Diesel-Elec.	247,000	1,600	May	October	Alco Products
	4	B-B	Freight	Diesel-Elec.	247,000	1,600	November	Jan. '56	Alco Products
Norfolk Southern	2	A1A-A1A	Rd.-Sw.	Diesel-Elec.	280,000	1,600	June	December	Baldwin-Lima-Hamilton
Northern Pacific	3	B-B	Switching	Diesel-Elec.	247,000	1,200	February	July	Electro-Motive
	1	B-B	Switching	Diesel-Elec.	247,000	1,200	June	December	Electro-Motive
	4	B-B	Switching	Diesel-Elec.	247,000	1,200	August	Mar. '56	Electro-Motive
	23	B-B	Rd.-Sw.	Diesel-Elec.	259,000	1,750	February	June	Electro-Motive
	1	B-B	Rd.-Sw.	Diesel-Elec.	257,000	1,750	February	August	Electro-Motive
	1	B-B	Rd.-Sw.	Diesel-Elec.	254,000	1,750	February	August	Electro-Motive
	1	B-B	Rd.-Sw.	Diesel-Elec.	258,000	1,750	June	December	Electro-Motive
	2	B-B	Rd.-Sw.	Diesel-Elec.	250,000	1,750	August	Feb. '56	Electro-Motive
	15	B-B	Rd.-Sw.	Diesel-Elec.	258,000	1,750	August	Feb. '56	Electro-Motive
	1	B-B	Rd.-Sw.	Diesel-Elec.	245,000	1,600	February	May	Alco Products
Pennsylvania	50	....	Rd.-Sw.	Diesel-Elec.	.....	1,750	May	December	Electro-Motive
	16	....	Switching	Diesel-Elec.	.....	1,600	September	December	Alco Products
	5	....	Switching	Diesel-Elec.	.....	2,400	September	December	Alco Products
Pennsylvania-Reading Seashore	6	B-B	Pass.-Frt.	Diesel-Elec.	250,000	1,600	October	Dec. '55-Feb. '56	Baldwin-Lima-Hamilton
	6	B-B	Switching	Diesel-Elec.	237,100	1,200	October	Feb.-Mar. '56	Baldwin-Lima-Hamilton
Reading	6	C-C	Rd.-Sw.	Diesel-Elec.	375,000	2,400	July	Nov.-Dec.	Fairbanks, Morse
Rockdale, Sandow & Southern	1	B-B	Switching	Diesel-Elec.	246,000	1,200	May	November	Electro-Motive
Sacramento Northern	1	B-B	Switching	Diesel-Elec.	137,600	600	May	July	General Electric
Sand Springs	2	B-B	Switching	Diesel-Elec.	233,000	900	July	Feb. '56	Electro-Motive
Savannah & Atlanta	1	....	Rd.-Sw.	Diesel-Elec.	255,000	1,600	April	August	Baldwin-Lima-Hamilton
Seaboard Air Line	10	B-B	Freight	Diesel-Elec.	246,800	1,750	June	November	Electro-Motive
Sioux City Terminal	1	B-B	Switching	Diesel-Elec.	139,000	600	September	Jan. '56	General Electric
Soo Line	2	B-B	Rd.-Sw.	Diesel-Elec.	.....	1,750	November	Mar. '56	Electro-Motive
	3	B-B	Rd.-Sw.	Diesel-Elec.	.....	1,750	July	Mar. '56	Electro-Motive
Southern	11	B-B	Switching	Diesel-Elec.	240,000	1,750	January	July-Aug.	Electro-Motive
	5	C-C	Rd.-Sw.	Diesel-Elec.	375,000	2,400	January	May-June	Fairbanks, Morse
	1	B-B	Switching	Diesel-Elec.	240,000	1,800	November	Feb. '56	Alco Products
Southern Pacific	1	B-B	Freight	Diesel-Elec.	142,000	660	August	December	General Electric
	45	C-C	Freight	Diesel-Elec.	360,000	1,750	August	Jan.-May '56	Electro-Motive
	104	B-B	Freight	Diesel-Elec.	250,000	1,750	August	Feb.-May '56	Electro-Motive
	14	C-C	Freight	Diesel-Elec.	330,000	1,600	August	Nov.-Dec.	Alco Products
	12	B-B	Freight	Diesel-Elec.	233,000	900	August	Nov.-Dec.	Alco Products
	1	B-B	Switching	Diesel-Elec.	233,000	900	August	December	Alco Products
	9	B-B	Switching	Diesel-Elec.	249,000	1,200	August	Jan.-Feb. '56	Fairbanks, Morse
Spokane, Portland & Seattle	9	B-B	Rd.-Frt.	Diesel-Elec.	230,900	1,600	August	November	Alco Products
	2	B-B	Rd.-Frt.	Diesel-Elec.	248,500	1,750	August	June '56	Electro-Motive
	4	B-B	Rd.-Frt.-Pass.	Diesel-Elec.	248,500	1,750	August	June '56	Electro-Motive
Terminal RR of St. Louis	8	B-B	Switching	Diesel-Elec.	248,000	1,200	April	July-Oct.	Electro-Motive
Union Pacific	20	....	Switching	Diesel-Elec.	.....	1,000	July	July	Alco Products
	25	....	Switching	Diesel-Elec.	.....	1,000	October	Dec. '55-Mar. '56	Alco Products
	30	A1A-A1A	Rd.-Pass.	Diesel-Elec.	.....	2,400	February	November	Electro-Motive
	15	2 (C-C)	Rd.-Frt.	Gas Turb.-Elec.	816,000	8,500	November	1957	General Electric
Utah	1	....	Rd.-Sw.	Diesel-Elec.	360,000	1,600	June	November	Alco Products
Virginian	6	B-B	Rd.-Sw.	Diesel-Elec.	262,200	1,600	July	November	Fairbanks, Morse
	12	O-6-6-O	Freight	Electric	394,000	3,300	June	1956-1957	General Electric
Wabash	3	B-B	Freight	Diesel-Elec.	253,000	1,750	July	Mar. '56	Electro-Motive
	3	B-B	Freight	Diesel-Elec.	246,000	1,750	July	Mar. '56	Electro-Motive
	6	C-C	Freight	Diesel-Elec.	750,000	4,800	November	June '56	Fairbanks, Morse
Washington & Old Dominion	1	B-B	Switching	Diesel-Elec.	140,000	660	October	Mar. '56	General Electric
Western Maryland	5	B-B	Switching	Diesel-Elec.	248,000	1,750	June	September	Electro-Motive
Western Pacific	8	B-B	Freight	Diesel-Elec.	232,300	1,750	April	September	Electro-Motive
Yancey	1	B-B	Switching	Diesel-Elec.	90,000	300	February	April	General Electric

LOCOMOTIVE ORDERS—for Export

Canadian National	3	B-B	Switching	Diesel-Elec.	88,000	400	September	Apr. '56	General Electric
Chihuahua-Pacific (Mex.)	1	B-B	Rd.-Sw.	Diesel-Elec.	246,000	1,600	October	Feb. '56	Fairbanks, Morse
Cuba	1	B-B	Switching	Diesel-Elec.	90,000	300	May	September	General Electric
	1	B-B	Rd.-Sw.	Diesel-Elec.	140,000	720	July	July	General Electric
El Salvador	2	B-B	Rd.-Sw.	Diesel-Elec.	100,000	500	September	July '56	General Electric
Ferrocarril del Pacifico (Mex.)	6	B-B	Switching	Diesel-Elec.	195,000	900	March	July-Aug.	Alco Products
	18	B-B	Switching	Diesel-Elec.	195,000	900	June	Sept.-Dec.	Alco Products
	8	B-B	Freight	Diesel-Elec.	300,000	1,600	November	Jan. '56	Alco Products
French National Rys.	1	A1A-A1A	Freight	Diesel-Elec.	216,000	1,200	May	Jan. '56	Baldwin-Lima-Hamilton
Guatamala	5	B-B	Rd.-Sw.	Diesel-Elec.	100,000	500	September	June '56	General Electric
	6	C-B-C	Rd.-Sw.	Diesel-Elec.	240,000	1,200	September	Aug. '56	General Electric
Manila (P. I.) Rys.	10	B-B	Rd.-Sw.	Diesel-Elec.	104,000	500	March	October	General Electric
	10	C-C	Rd.-Sw.	Diesel-Elec.	180,000	1,200	March	Apr. '56	General Electric
	20	C-C	Rd.-Sw.	Diesel-Elec.	192,000	1,200	March	Feb. '56	General Electric
Pakistan	1	B	Switching	Diesel-Elec.	50,000	150	November	Mar. '56	General Electric
Surinam	1	B-B	Rd.-Sw.	Diesel-Elec.	100,000	500	September	May '56	General Electric
Roberval & Saguenay	1	B-B	Rd.-Sw.	Diesel-Elec.	259,000	1,600	January	April	Montreal Locomotive

LOCOMOTIVE ORDERS—Canada

Canadian National	5	B-B	Rd.-Sw.	Diesel-Elec.	.....	1,000	February	August	Montreal Locomotive
	12	....	Passenger	Diesel-Elec.	.....	1,600	February	April	Montreal Locomotive
	23	B-B	Rd.-Sw.	Diesel-Elec.	.....	1,600	July	December	Montreal Locomotive
	6	B-B	Rd.-Sw.	Diesel-Elec.	.....	1,000	July	Nov. '55-Jan. '56	Montreal Locomotive
	44	B-B	Switching	Diesel-Elec.	.....	1,000	July	Aug. '55-Jan. '56	Montreal Locomotive
	10	B-B	Rd.-Sw.	Diesel-Elec.	.....	1,200	February	Aug.-Oct.	Canadian Locomotive
	1	B-B	Rd.-Sw.	Diesel-Elec.	.....	2,400	April	August	Canadian Locomotive
	20	B-B	Rd.-Sw.	Diesel-Elec.	.....	1,200	July	Feb.-Apr. '56	Canadian Locomotive
	23	B-B	Rd.-Sw.	Diesel-Elec.	.....	1,200	February	Sept. '55-May '56	G. M. Diesel
	2	....	Pass.	Diesel-Elec.	.....	1,750	April	April	G. M. Diesel
	21	B-B	Rd.-Sw.	Diesel-Elec.	.....	1,200	July	June-Aug. '56	G. M. Diesel
	45	B-B	Rd.-Sw.	Diesel-Elec.	.....	1,750	July	Sept. '55-May '56	G. M. Diesel
	11	....	Switching	Diesel-Elec.	.....	1,200	July	May-June '56	G. M. Diesel
	26	B-B	Rd.-Sw.	Diesel-Elec.	.....	1,200	November	June-Oct. '56	G. M. Diesel
	6	B-B	Rd.-Sw.	Diesel-Elec.	.....	875	November	July '56	G. M. Diesel
	3	....	Rd.-Sw.	Diesel-Elec.	.....	400	August	May '56	Canadian General Elec.
	11	....	Switching	Diesel-Elec.	.....	1,000	July	Sept.-Oct.	Alco Products
	14	....	Rd.-Sw.	Diesel-Elec.	.....	1,750	July	May '56	Electro-Motive
Canadian Pacific	25	B-B	Rd.-Sw.	Diesel-Elec.	259,000	1,750	January	July-Aug.	G. M. Diesel
	10	B-B	Rd.-Sw.	Diesel-Elec.	260,000	1,600	January	July	Canadian Locomotive
	1	C-C	Rd.-Sw.	Diesel-Elec.	388,000	2,400	January	July	Canadian Locomotive
	11	B-B	Switching	Diesel-Elec.	197,700	660	January	August	Montreal Locomotive
Ontario Northland	2	B-B	Rd.-Sw.	Diesel-Elec.	257,000	1,600	July	December	Montreal Locomotive
London & Pt. Stanley	1	B-B	Rd.-Sw.	Diesel-Elec.	162,000	1,310	June	September	G. M. Diesel
Great Northern-Midland	1	B-B	Switching	Diesel-Elec.	230,000	900	June	.....	G. M. Diesel
Ontario Northland	2	B-B	Rd.-Sw.	Diesel-Elec.	258,000	1,750	June	.....	G. M. Diesel
British Columbia Electric	2	B-B	Switching	Diesel-Elec.	236,000	900	October	.....	G. M. Diesel
Quebec, North Shore & Labrador	20	B-B	Rd.-Sw.	Diesel-Elec.	258,000	1,750	November	.....	G. M. Diesel
Roberval & Saguenay	1	B-B	Rd.-Sw.	Diesel-Elec.	259,000	1,600	January	April	Montreal Locomotive
Ontario Northland	2	B-B	Rd.-Sw.	Diesel-Elec.	257,000	1,600	July	December	Montreal Locomotive
Canadian Pacific	17	B-B	Rd.-Sw.	Diesel-Elec.	258,600	1,750	January	July	G. M. Diesel
	8	B-B	Rd.-Sw.	Diesel-Elec.	259,200	1,750	January	August	G. M. Diesel
	4	B-B	Rd.-Sw.	Diesel-Elec.	260,500	1,600	January	July	Canadian Locomotive
	6	B-B	Rd.-Sw.	Diesel-Elec.	258,800	1,600	January	July	Canadian Locomotive
	1	C-C	Rd.-Sw.	Diesel-Elec.	388,000	2,400	January	July	Canadian Locomotive
	11	C-C	Switching	Diesel-Elec.	197,700	660	January	August	Montreal Locomotive

1955 PASSENGER CAR ORDERS

Purchaser	No.	Class	Length Ft.	Length In.	Construction	Seating Capacity	Weight	Date of Order	Date of Delivery	Builder
Atchison, Topeka & Santa Fe	25	Hi-Level Coach	85	0	Steel	72	160,900	March	1956	Budd
	6	Hi-Level Lounge	85	0	Steel	86	169,600	March	Apr.-May '56	Budd
	6	Hi-Level Dining	85	0	Steel	80	191,600	March	May-June'56	Budd
	30	Baggage Shell	..	..	Steel	..	.....	May	1956	.....
	10	Hi-Level Coach	85	0	Steel	68	161,200	March	1956	Budd
Boston & Maine	5	Coach (Talgo)	109	3	Steel	96	77,000	September	July '56	ACF Industries
	3	RDC-1	..	..	Steel	89	112,800	October	December	Budd
	1	RDC-1	..	..	Steel	89	113,000	August	October	Budd
Chicago & Eastern Illinois	16	Gallery Coaches	85	..	Steel	161	140,000	June	July '56	Pullman Standard
Chicago & North Western	5	Gallery	85	0	Steel	148	133,900	February	October	Budd
Chicago, Burlington & Quincy	5	Gallery	85	0	Steel	144	133,500	February	October	Budd
	11	Sleeping	85	0	Steel	22	140,700	February	1956	Budd
	2	Dining	85	0	Steel	48	147,200	February	1956	Budd
	2	Dome Coffee Shop	85	0	Steel	55	156,800	February	1956	Budd
	5	Coach	85	0	Steel	50	125,500	February	1956	Budd
	2	Dome Coach	85	5	Steel	70	148,900	February	1956	Budd
	4	Siesta Coach	85	0	Steel	40	143,700	February	1956	Budd
	2	Dome Parlor	85	0	Steel	58	150,700	February	1956	Budd

Statistical Review of 1955

an exclusive **RAILWAY AGE** *industry service*

PASSENGER CAR ORDERS—UNITED STATES (Continued)

Purchaser	No.	Class	Length Ft.	Length In.	Construction	Seating Capacity	Weight	Date of Order	Date of Delivery	Builder
Chicago, Rock Island & Pacific	1	RDC-3	..	..	Steel	48	117,000	June	July	Budd
	25	Baggage	65	8	Steel	..	.....	October	.....	ACF Industries
Chicago Transit Authority	80	Subway	48	6	Steel Alum.	49-50	40,000	September	.....	St. Louis Car
Duluth, South Shore & Atlantic	1	RDC-1	..	..	Steel	89	113,000	May	August	Budd
Great Northern	1	RDC-3	..	..	Steel	48	117,000	November	May '56	Budd
Kansas City Southern	6	Coach	85	0	Steel	60	.....	June	.....	ACF Industries
Long Island	8	M-U Trailer	82	8	Steel	123	107,000	May	December	Pullman-Standard
	55	Coach	82	8	Steel	120	111,000	May	Dec. '55-Mar. '56	Pullman-Standard
	32	M-U Trailer	82	8	Steel	123	128,000	May	Mar.-Apr. '56	Pullman-Standard
Missouri-Kansas-Texas	1	RDC-3	..	..	Steel	48	117,000	September	May '56	Budd
Missouri Pacific	6	Sleeping	85	0	Steel	22	157,500	June	3rd qtr. '56	Budd
New York Central	4	Coach	51	0	Alum. Alloy	40	.....	March	Apr. '56	Pullman-Standard
	4	Coach	48	0	Alum. Alloy	48	.....	March	Apr. '56	Pullman-Standard
	1	Coach	48	0	Alum. Alloy	40	.....	March	Apr. '56	Pullman-Standard
New York City Transit Authority	250	Subway	51	0	Steel	44	78,000	September	.....	St. Louis Car
New York, New Haven & Hartford	2	RDC-Special	..	..	Steel	60	123,800	May	July-Oct. '56	Budd
	4	RDC-Special	..	..	Steel	76	121,300	May	July-Oct. '56	Budd
	5	Coach (Talgo)	109	0	Steel-Alum.	96	72,000	April	.....	ACF Industries
	9	Coach (Train X)	..	..	Alum. Alloy	392 (total)	.....	March	July '56	Pullman-Standard
Northern Pacific	5	Parlor-Bar-Lounge	82	10	Steel	45	129,000	November	June '56	Pullman-Standard
	3	Baggage	71	8	Steel	..	101,050	November	June '56	Pullman-Standard
	7	Baggage	71	8	Steel	..	99,837	November	June '56	Pullman-Standard
	1	RDC-2	..	..	Steel	70	114,000	January	January	Budd
	1	RDC-3	..	..	Steel	48	117,000	January	March	Budd
	7	Coach	85	0	Steel	82	87,000	March	May '56	Budd
Pennsylvania	1	Power Car	53	0	Steel	..	101,500	March	May '56	Budd
Richmond, Fredericksburg & Potomac	2	Coach	82	10	Steel	52	130,000	February	December	Pullman-Standard
Seaboard Air Line	7	Coach	85	0	Steel	52	.....	January	Nov.-Dec.	Pullman-Standard
	6	Sleeping	85	0	Steel	24	127,600	January	November	Budd
	12	Sleeping	..	..	Steel	..	135,000	January	Nov.-Dec.	Pullman-Standard
Spokane, Portland & Seattle	1	Dome Coach	85	0	Steel	76	145,000	February	June	Budd

Passenger Car Orders—Canada

Canadian National	20	Baggage	76	0	Steel	..	124,500	April	December	National Steel Car
	30	Express Refrig.	44	6	Steel	..	71,000	June	December	Marine Industries
	1	RDC-3	..	..	Steel	48	118,100	September	October	Budd
Canadian Pacific	8	RDC-2	..	..	Steel	70	114,000	January	March	Budd
	2	RDC-3	..	..	Steel	48	117,000	January	March	Budd
	2	RDC-1	..	..	Steel	89	118,000	July	Aug.-Sept.	Budd
	1	RDC-2	..	..	Steel	70	116,000	July	September	Budd
	1	RDC-3	..	..	Steel	48	117,000	July	September	Budd
	1	RDC-4	..	..	Steel	0	110,800	July	September	Budd

R LOCOMOTIVE OWNERSHIP

STEAM LOCOMOTIVES

	1942	1954	1955*	1955 vs. 1942 Decrease	1955 vs. 1954 Decrease
Passenger	6,498	1,193	776	5,722	417
Freight	24,650	5,990	4,092	20,558	1,898
Freight or Passenger	1,306	515	373	933	142
Switch	7,165	1,451	1,078	6,087	373
Total	39,619	9,149	6,319	33,330	2,830

*November 1, 1955

DIESEL-ELECTRIC LOCOMOTIVES

	1942	1954†	1955†*	1955 vs. 1942 Increase	1955 vs. 1954 Increase
Passenger	156	2,333	2,366	2,210	33
Freight	52	11,636	12,199	12,147	563
Freight or Passenger	20	1,095	1,117	1,097	22
Switch	1,284	8,579	8,947	7,663	368
Total	1,512	23,643	24,629	23,117	986

†Units

S MOTIVE POWER STATISTICS

FREIGHT SERVICE

	10 months ended with October 1955	1954
Road locomotive-miles (000) (M-211):		
Total, steam	54,864	68,307
Total, diesel-electric	354,635	323,835
Total, electric	7,515	6,483
Total, locomotive-miles	419,215	394,286
Gross ton-miles (excluding locomotive and tender)	1,183,995	1,069,475
Train-miles	394,357	371,685

PASSENGER SERVICE

Road motive-power miles (000) (M-213):		
Steam	14,096	22,844
Diesel-electric	202,518	208,896
Electric	13,019	13,856
Total	229,634	245,598

YARD SERVICE—FREIGHT

Freight yard switching locomotive-hours (000) (M-215):		
Steam, coal-burning	2,872	3,093
Steam, oil-burning	488	545
Diesel-electric	35,871	32,814
Total	39,296	36,548

1955 RAILWAY PURCHASES

	(000)
Equipment*	1,400,000
Rail	96,500
Crossties	56,700
Other Material	1,075,200
Total from Manufacturers	2,628,400
Fuel	421,100
Grand total	3,049,500**

*Amount placed on order
**Subject to revision

Statistical Review Of 1955

an exclusive

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industry service

More Statistical Reports on page 190

THE RACOR STUD

(Patented)

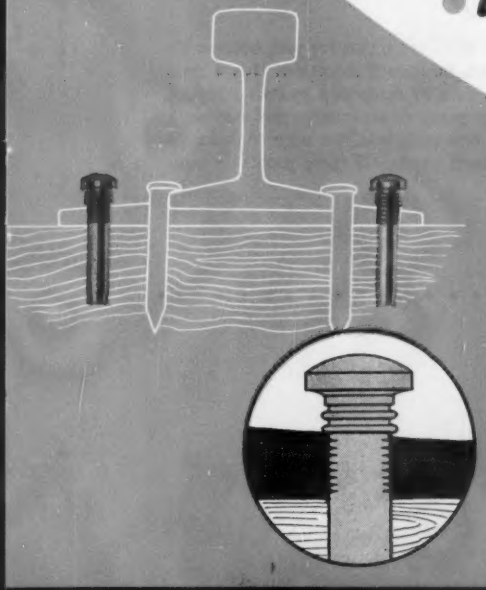
deserves your consideration because...

IT EXTENDS TIE LIFE

- BY REDUCING TIE ABRASION
- BY REDUCING SPIKE KILLED TIES
- BY REDUCING SPLIT TIES

IT PROVIDES STURDIER TRACK

- BY MAINTAINING BETTER LINE AND GAGE
- BY DEFERRING TIE REPLACEMENT
- BY REDUCING LABOR COSTS



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Conclusive tests show a reduction of over 50% in tie wear by the use of the RACOR STUDS.

Low in cost, the RACOR STUD will show a high return through material and labor savings with sturdier, smoother and safer track.

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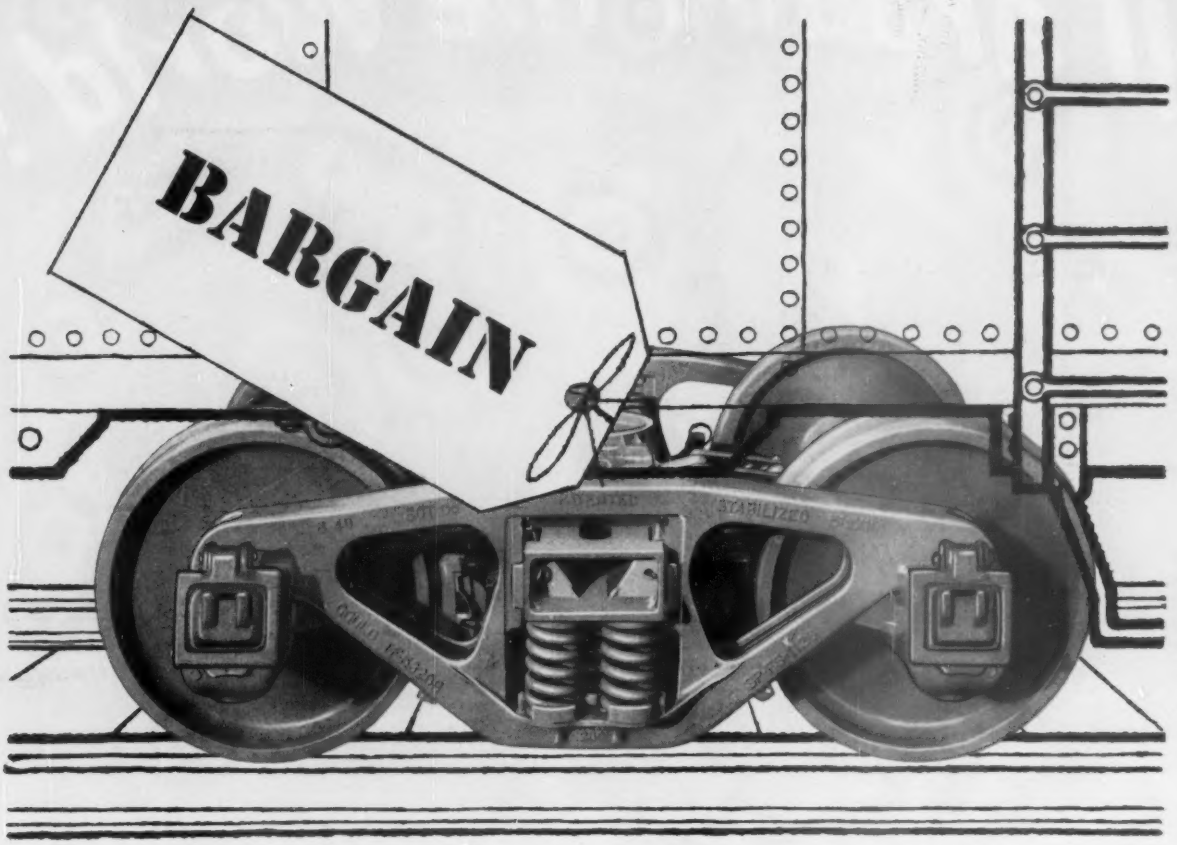
RAILWAY AGE

One of a series of advertisements prepared by THE ASSOCIATED BUSINESS PUBLICATIONS



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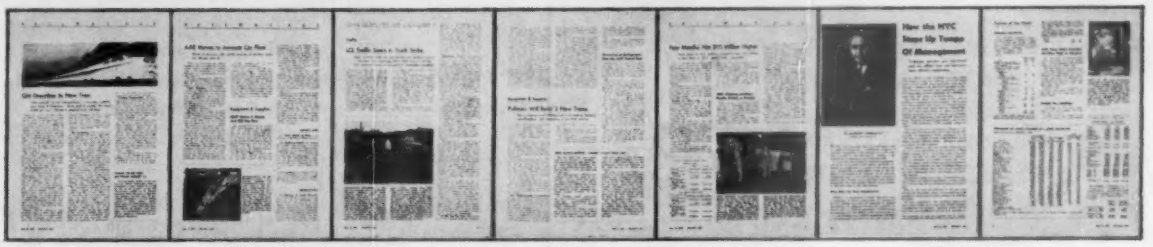

Q: Which railway paper is first with vital industry news? **A: Railway Age** (93% of the major articles in RAILWAY AGE are either "firsts" or "exclusives.")

Q: Which railway paper carries most working information? **A: Railway Age** (RAILWAY AGE carries over twice as many editorial pages as number two paper.*)

Q: Which railway paper carries most buying information? **A: Railway Age** (RAILWAY AGE carries nearly a third more advertising pages than the number two paper.*)

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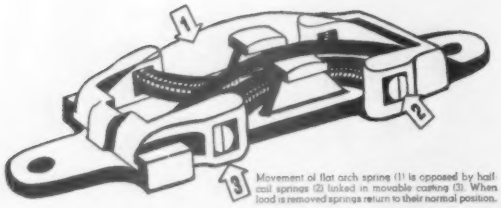

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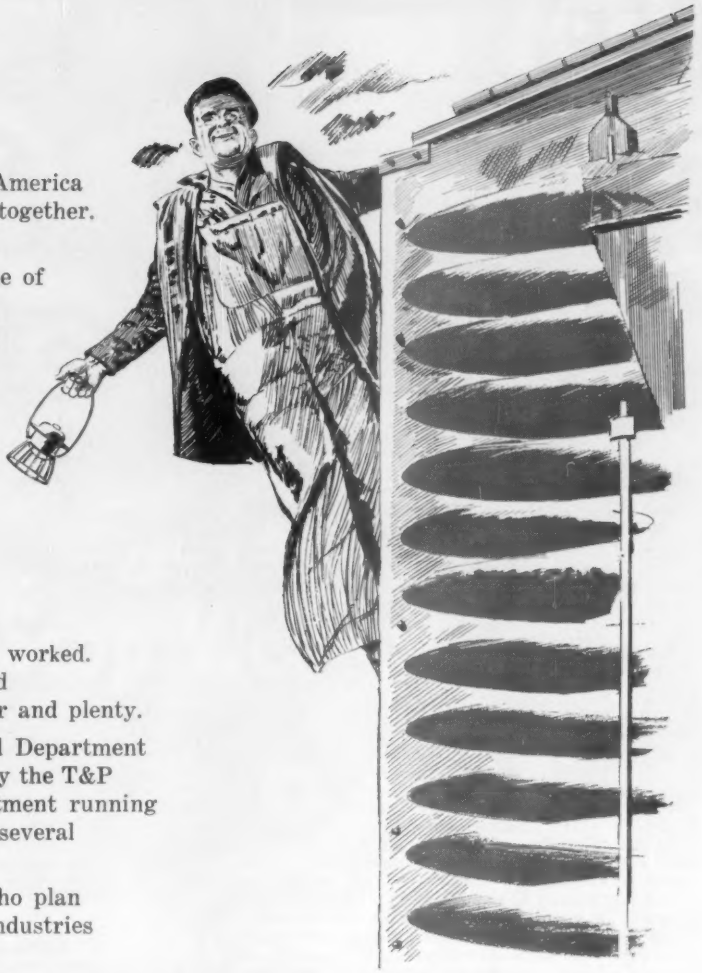

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In the economic growth of our cities and communities there is a complicated maze of interdependence . . . for neither individuals nor business enterprises can live unto themselves. They must live and work together . . . with faith in the inherent honesty of each other . . . and with respect for personal rights and individual liberties. They can grow strong only by helping others to grow strong.

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In the past several years our Industrial Department has brought to the communities served by the T&P many new industries, with plant investment running into many million dollars and employing several thousand people.

The men and women of our railroad who plan and lay new tracks to serve these new industries contribute much to the economic development of the communities we serve.

They strive to be good neighbors . . . helpful and cooperative members of a community team.

That is a sound and rewarding policy. It is the kind of policy by which the men and women of our railroad live and work.

GO T&P SHIP

TEXAS AND PACIFIC RAILWAY

CONSTRUCTION PROJECTS

Brief descriptions of construction and improvement projects, costing $1,000,000 or more, which were completed during 1955 or were under way at the end of the year. *The figures in parentheses indicate percentage of completion at the end of 1955.* Reports are based on data specially submitted to *Railway Age.*

Alaska: Relay 58.7 track-miles of existing 70-lb rail with 115-lb rail; ballast; respace and replace ties between Seward and Portage, $4,231,285 (95); construct two-berth marine terminal at Seward, $4,790,000 (30).

Atchison, Topeka & Santa Fe: Extend freighthouse, Corwith, Ill. (2); line change between Craig, Kan., and Olathe, (40), CTC and additional trackage between Fresno, Cal., and Mormon (50). **Gulf, Colorado & Santa Fe:** CTC between Purcell, Okla., and Red (100); new line approximately 50 miles from Sanger, Tex., to Dallas (100). **Panhandle & Santa Fe:** Construct 19.7-mile spur between Maryneal, Tex., and Silver (1).

Baltimore & Ohio: Yard improvement, Connellsville, Pa., $1,900,000 (99); railroad changes necessary for Penn-Lincoln Parkway, Pittsburgh, Pa., $4,000,000 (35); reconstruction of bridge over Cuyahoga river, Cleveland, $3,250,000 (75); reconstruction of 32 bridges at various locations (1955 bridge program) $1,400,000 (100).

Bessemer & Lake Erie: Extend and modernize CTC system Albion, Pa., to North Bessemer, $1,875,000 (65).

Canadian National: Construct 155-mile new line between Beattyville, Que., and Chibougamau, $18,000,000 (50); construct 27-mile branch between Hillsport, Ont., and Manitouwadge, $3,750,000 (100); improvement to grain elevator, Port Arthur, Ont., $1,500,000 (99); extend ore dock, Port Arthur, $3,200,000 (1); improve and expand yard facilities, Edmundston, N. B., $1,250,000 (15); construct car-shop facilities, including repair shop and paint shop, extend storage building and work equipment shop, Point St. Charles, Montreal, Que., $4,000,000 (97); construct facilities for repairing diesel locomotives, including remodeling interior of existing electric locomotive shop, construct extension to existing locomotive shops, together with installation of 100-ton drop table, 5-crossover bridges, 35-ton overhead electric traveling crane with 10-ton auxiliary, together with sanding facilities, dryers, cleaning equipment and incidental trackwork, Point St. Charles, $1,300,000 (90); expand and improve track facilities at Turcot yard, Montreal, $2,350,000 (97); construct freight-shed buildings, a general freight-office building, platforms, teamways and team tracks, to replace facilities destroyed by fire, Montreal, $7,000,000 (86); construct improvements of Central Station approach facilities, Montreal, including extension of 4 stub tracks to form through tracks, removal of five buildings, extension of sub-track area, South Plaza, completion of the west end of Lagauchetiere Street bridge and construction of a double-track span across St. Antoine street, an additional ladder lead track across the street, $4,000,000 (95); divert two main-line passenger tracks and enlarge Mimico yard, including installation of an intercommunication system, construction of car-repair buildings and incidental car-repair tracks, platforms, sewers and paving between trackage, Toronto, Ont., $4,000,000 (97); install CTC on 105.7 miles of single track between Antikokan, Ont., and Conmee Jct., on the Kashabowie subdivision, $2,325,000 (98); new marshalling yard in parish of St. Laurent, Montreal, $19,650,000 (10); new express garage and office building, Toronto, $4,750,000 (70); associated railway work in connection with new hotel, Montreal, $5,000,000 (15); new yard including six tracks with a capacity of 100 to 107 cars and 22 classification tracks with a total car capacity of 1,269 cars, new yard office with tower for yard communications, Joffre, Que., $2,250,000 (30); replace trackage for electric cars with vehicular roadway on Victoria bridge, Montreal $2,200,000 (2). **Grand Trunk Western:** Construct CTC between Durand, Mich., and Port Huron, project includes installation of traffic-control system on single track with control machine at Battle Creek, Mich., in lieu of automatic block-signal system on double track, remove portion of second track except for sections retained for siding on 8.6 miles between Durand and Flint and 52.5 miles between Flint and Port Huron, convert 8 miles of second track to passing sidings at three locations and station track at one location, install three No. 20 equilateral turnouts at double-track switches and seven No. 20 turnouts at one double-track switch and three sidings and equip with power-operated switches and associated signaling, and install electric locks on 32 hand-operated switches, $1,200,000 (14).

Canadian Pacific: Construct 40 miles of branch line and 4.3 miles of siding between Struthers, Ont., and Manitouwadge Lake, $3,300,000 (99); construct 15-mile branch from Havelock, Ont., to Nephton, $1,500,000 (100); replace 43.8 miles 100-lb mainline rail with new 130-lb rail on the Oshawa subdivision, $1,700,000 (100); construct 7-story office building extension (60 ft by 300 ft), Windsor station, Montreal, Que., $1,650,000 (97); construct train-ferry slips at Vancouver, B. C., and Nanaimo, $3,398,400 (100). **Quebec Central:** Relocate 8.23 miles of main track and 4.45 miles of yard track, including 24 turnouts, freight shed and other terminal facilities, Thetford Mines, Que., $2,200,000 (100).

Chesapeake & Ohio: Replace steel spans in portion of viaduct west of Rivanna Jct., and fill 353 ft on west end of viaduct, Richmond, Va., $1,138,000 (55); install car-retarder system in eastbound classification yard, Stevens, Ky., $1,069,000 (100); construct passenger car shop, relocate wheel and axle shop and storage facilities, Huntington, W. Va., $1,429,350 (99); install CTC system and rearrange crossovers, Columbus, Ohio, to Delaware, and Marion to VR Tower, $1,701,300 (98); construct low-level pier complete with ore-handling equipment and supporting tracks, Newport News, Va., $8,307,500 (2.5); construct addition to Pier 15 for dumping and loading coal into ships Newport News, $3,181,700 (1); replace steel spans in viaduct east of Rivanna Jct., to Nicholson st., Richmond, $7,049,000 (1); construct line changes at 29 points and respace signals between MP 14 and 112, Rivanna subdivision. $1,143,200 (2); install 23.3 miles of CTC between Macdougal, W. Va., and Chelyan, $1,209,000 (1); reconstruct westbound manifest yard at Russell, Ky., $5,463,300 (1); install CTC system and construct 10,345 ft of track, Saginaw, Mich., to Ludington, $1,200,000 (100).

Chicago & North Western: Construct viaduct over C&NW and IC tracks Broadway St., Council Bluffs, Iowa, $1,600,000 (100); construct concrete and steel bridge on Mannheim road over Proviso yard, Proviso, Ill., $2,210,000 (100); reconstruct bridge over Ridge ave. and Emerson st., Evanston, Ill., $1,100,000 (25).

Chicago, Burlington & Quincy: Install CTC between Pacific Jct., Neb., and Lincoln, $1,445,000 (100); construct line facilities for continuous cab signaling between Chicago and Aurora, $1,360,525 (65); construct hump retarder yard at Cicero, Ill., $4,016,000 (30).

Chicago, Milwaukee, St. Paul & Pacific: Construct additional tracks and convert existing flat switching yard to a modern retarder yard comprising 57 classification tracks, 7 receiving tracks and 6 departure tracks; also construct modern repair yard and icing facilities; at St. Paul, Minn., $5,000,000 (25).

Chicago South Shore & South Bend: Construct 5.2 miles of double track in new location to bypass paved street trackage in East Chicago, Ind., $2,000,000. (Original plan altered for state toll road. Railroad company work deferred to 1956.)

Chicago Union Station: Enlarge and modernize mail handling facility including construction of a large platform with adjacent trackage to accommodate 17 cars, with signaling and interlocking, expansion of primary sorting platforms, and installation of mail conveyor system, Chicago, $2,000,000 (Track work, 90; signaling and interlocking, 50; subway and basement, 60; platforms, 30).

Chihuahua-Pacific: Total rehabilitation of railroad which includes change from 60-lb rail to 80-lb, drainage, improvement of embankment, etc., 1955 portion of program, $1,500,000 (100).

Erie: Construct yard facility and lead tracks to serve Fisher Body plant, Ontario, Ohio (85); construct yard for and including car repair shop facilities, Meadville, Pa. (25).

Ferrocarril del Pacifico: Rehabilitation of 400 miles of main track including relaying 400 miles of 65-lb rail with 100-lb rail,
(*Continued on page 194*)

Your best defense against weeds on tough terrain... **Concentrated BORASCU®**

As a weed killer for areas where bare ground is essential to safety from wildfire, you'll want to do as most roads do... choose Concentrated BORASCU. This weed killer is the most convenient sort... there is nothing to mix; no water to haul. It is readily applied wherever a man can walk... all he needs is a pail and a few sacks of BORASCU. Compare this to weed-cutting and figure the savings.

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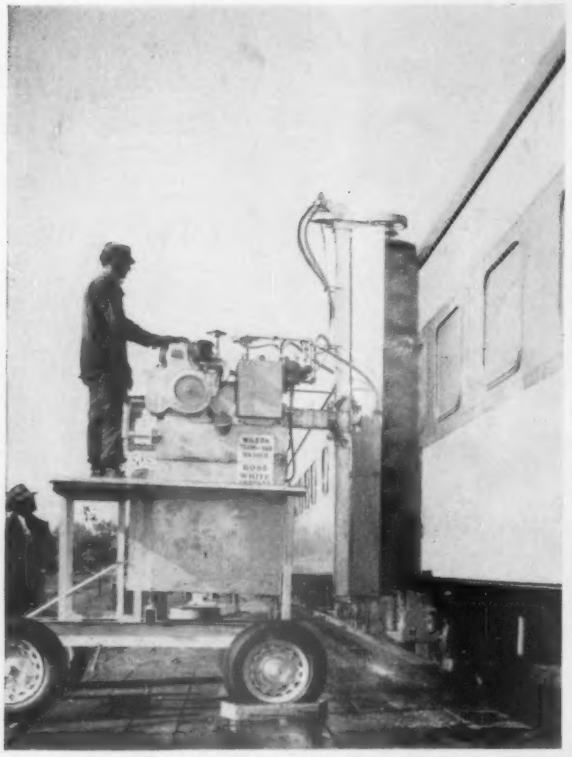

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THE AUTOMATIC WASHER FOR SUCCESSFULLY CLEANING QUICKLY, R.R. TRAINS IN TRANSIT.

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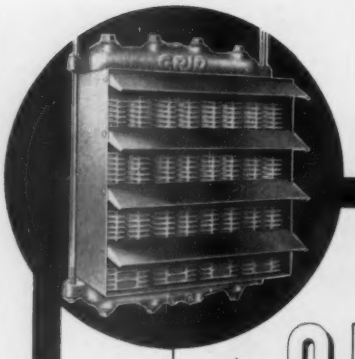

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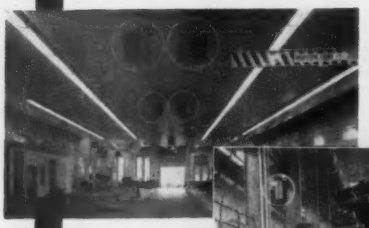

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Here's an economy converter that's tailored to conservative budgets without compromise with long service-life quality — featuring:

- Low-Cost initial investment—nearly one-half that of earlier series. At least 50% longer vibrator life expectancy.
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(*Continued from page 190*)
renew 650,000 crossties, distribute 400,000 cu yd ballast, surface 400 miles of main track, renew and replace 32 bridges at various locations, $19,500,000 (100); rehabilitate telegraph and telephone system, including rebuilding 550 miles of pole lines, restringing wire, installation of carrier Teletype system and telephone dispatching system on 550 miles of line, $1,000,000 (100); miscellaneous rehabilitation items such as replacement of roadway signs, construction of 125 section houses and other roadway buildings, construct 4 diesel fueling stations, modernize 2 shops and enginehouses, dig 27 water wells, purchase roadway machines, track tools and work equipment, $1,513,000 (100).

Galveston Wharves: Construct steel sheet-pile bulkhead complete with anchor wall and concrete slab, an apron and portion of floor in warehouse, Pier 39, Galveston, Tex., $1,397,000 (100).

Great Northern: Construct hump retarder yard consisting of 6 receiving and 6 departure tracks and 40 classification tracks, a total of 78.5 miles of yard track with push-button controlled car retarders, Minot, N. D., $6,250,000 (60).

Jersey Central Lines: Grade crossing elimination between Dunellen, N. J., and Plainfield, $7,000,000 (96).

Kansas City Southern: Construct yard, engine terminal, shop layout, office buildings, etc., Shreveport, La., $6,000,000 (100). **Louisiana & Arkansas:** Construct 16.5 miles of main track on main line connecting Texas line near Karnack, Tex., with Kansas City Southern main line at Blanchard, La., $1,500,000 (100).

Kansas City Terminal: Construct 3-track interchange route approximately 2 miles long, interlocked in both directions from two signal towers equipped with push-button controls, through the Central Industrial District and crossing the Missouri-Kansas state line, Kansas City, Mo., $2,662,000 (55).

Lehigh Valley: Construct new freight and passenger terminal, Buffalo, N. Y., $1,250,000 (100).

Long Island: Eliminate two grade crossings, Valley Stream, N. Y., $3,824,000 (100); construct new bridge to carry the Queens Midtown Expressway under six-track main line, Rego Park, N. Y., $1,700,000 (100); construct new inspection shed for the maintenance of multiple-unit coaches, Hillside, N. Y., $1,010,000 (1).

Louisville & Nashville: Construct receiving yard, classification yard, departure yard, and other terminal facilities, Radnor yard, Nashville, Tenn., $10,546,600 (100); install CTC, including track changes, Corbin, Ky., to Etowah, Tenn., $1,800,000 (100); install CTC, including track changes, Corbin, Ky., to Loyall, $1,563,885 (25); install CTC, including track changes, Parkton, Ky., to Montfort, Tenn., $2,301,539 (10); reconstruct bridge over Pearl river on present alinement about 6 ft above present grade, $1,138,500 (33); construct freighthouse, Nashville, Tenn., $1,000,000 (100); construct modern hump retarder yard, with 5 receiving tracks, 16 classification tracks, and 8 departure tracks, designed for future expansion to 5, 40 and 11 tracks, respectively, with icing facilities, radio, and automatic telephone talk-back system, joint with NC&StL, Hills Park yard, Atlanta, Ga., $5,870,198 (1).

McCloud River: Construct branch approximately 32 miles from Bear Flat, Cal., to Burney, $1,500,000 (100).

Missouri Pacific: Raise main track at 8 levee crossings and unprotected areas, including construction or reconstruction of all fills and bridges, Alton, Ill., to Gale, $5,555,000 (work completed at six locations); construct main track on new location including culverts and three bridges MP 289.93 to MP 293.75, between Dodson, Mo., and Red Bridge, $1,006,500 (98).

Nashville, Chattanooga & St. Louis: Construct retarder yard and improve existing yard facilities at Hills Park, Ga., joint with L&N, $1,875,599 (5).

National Railways of Mexico: Rehabilitation and construction program including reconstruction of four bridges, construction of new treating plant at Juchitán, Oax., track rehabilitation and ballast, $4,994,000 (100).

New York Central: Eliminate four grade crossings, Mt. Kisco, N. Y., $3,850,000 (95); reconstruct bridge over the Harlem river, New York, $18,500,000 (88); construct 2-span structure to carry railroad over Dor st., Toledo, Ohio, $2,400,000 (85); construct Congress Street Expressway through the LaSalle Street Station (joint with CRI&P), Chicago, $2,000,000 (85); construct overhead viaduct, Nasby, Ohio, $1,500,000 (60); reconstruct Cuyahoga River bridge, Cleveland, $5,000,000 (60); construct underpass grade separation, Elkhart, Ind., $1,700,000 (55); eliminate four grade crossings, Batavia, N. Y., $12,900,000 (40); install CTC on Erie division between Bay View, N. Y., and Nottingham, Ohio, and retire two main tracks, $6,000,000 (15). **Cleveland, Cincinnati, Chicago & St. Louis:** construct overhead viaduct, Ludlow Falls, Ohio, $1,000,000 (100); construct overhead structure, Springfield, Ohio, $1,000,000 (100); reconstruct Cuyahoga River bridge, Cleveland, Ohio, $3,000,000 (100); construct underpass grade separation, Middletown, Ohio, $1,000,000 (100); construct structure to carry railroad over U.S. 33 (Part I of Spring-Sandusky St. interchange), Columbus, Ohio, $2,16,000 (100); track elevation and underpass grade separation (joint with B&O, Erie and Dayton Union), Dayton, Ohio, $6,000,000 (5). **Michigan Central:** Construct structure to carry highways over railroad (existing overhead structure to be retired), Ann Arbor, Mich., $1,010,000 (100); construct underpass grade separation for Edsel Ford Expressway (joint with GTW), Detroit, Mich., $1,930,000 (100). **Indiana Harbor Belt:** Construct underpass to carry railroad over South Cicero Ave. (joint with C&WI), Chicago, $2,400,000 (100). **Chicago River & Indiana:** Reconstruct underpass grade separation on Ashland ave., and Fortieth st., Chicago, $2,500,000 (15).

New York, Chicago & St. Louis: Grade elimination, Fort Wayne, Ind., $1,409,158 (85).

New York, New Haven & Hartford: Reconstruct steel viaduct with concrete slabs in caissons, Bridgeport, Conn., $2,550,000 (50).

Norfolk & Western: Provide railway-owned communication system for telephone, telegraph and printer service for entire system, $1,344,000 (100); enlarge Lamberts Point Yard by construction of approximately 21 miles of track and installation of car retarders at lower piers to provide additional facilities for storage, classification and handling of coal, Norfolk, Va., $2,000,000 (65); construct new freight-car building and repair facilities for East Roanoke shops, including overhead cranes, wash and locker building, roadways, steam, air, and electric lines and approximately 2 miles of track, Roanoke, Va., $2,025,000 (20); rearrange tracks, extend 6 tracks, construct 6-span overhead bridge for truck road, rehabilitate public road and make signal changes at Auville yard, construct 5,188 ft additional storage track, install power-operated switches and make changes in signal and power lines at Farm, W. Va., and also extend CTC from Farm to Wilmore, Iaeger, W. Va., $1,118,000 (95).

Northern Pacific: Construct automatically controlled retarder yard with accompanying receiving and departure tracks, Pasco, Wash., $5,160,000 (100); reconstruct bridge over Clarks Fork river on new alinement, Clarks Fork, Idaho, $1,250,000 (90).

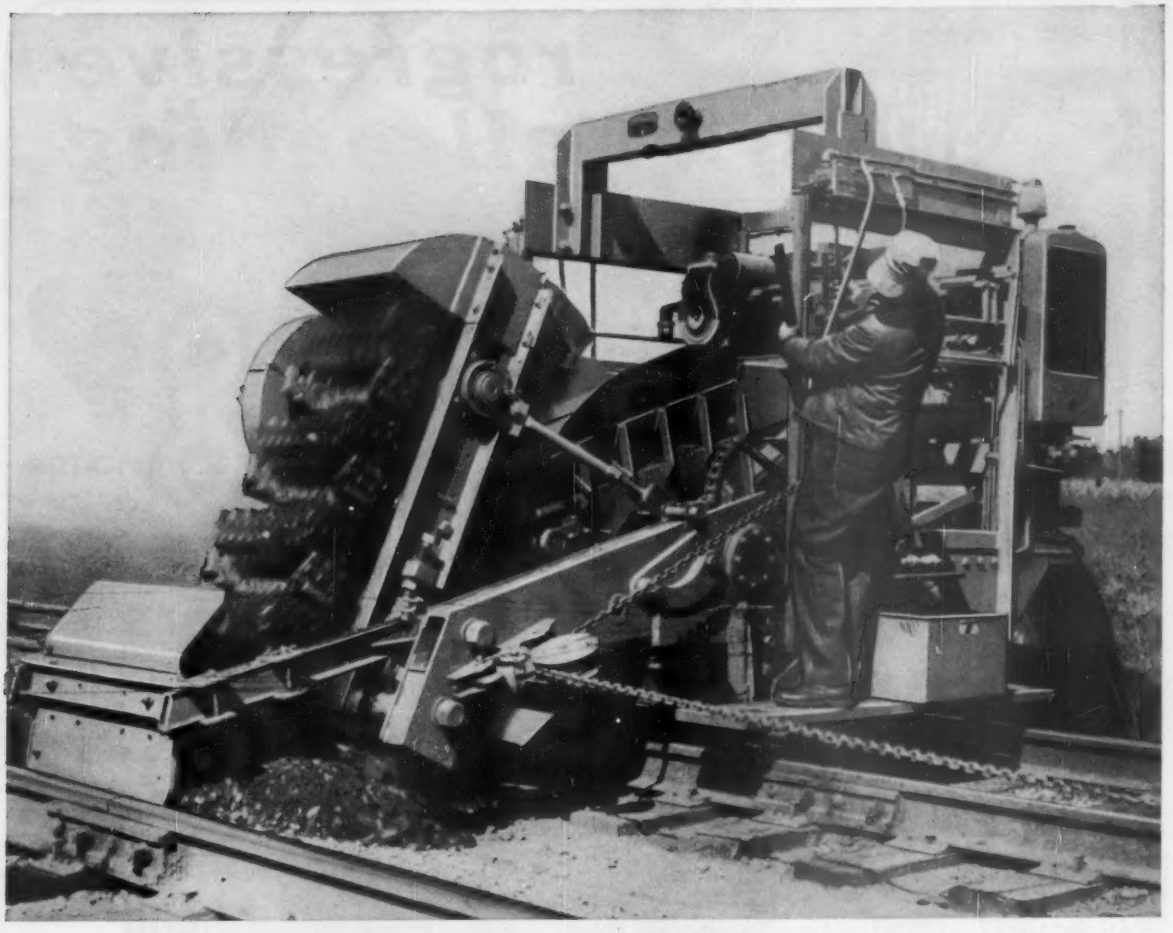
Ogden Union: Construct new trackage, new yard office and subyard office, install 7 light towers in east yard, 6 light towers in main yard, pneumatic tube system, radio and paging facilities and control tower, Ogden, Utah, $2,470,000 (92).

Pacific Great Eastern: Lay 50 track-miles of 85-lb rail to replace 60-lb and 70-lb rail on system, $1,500,000 (100); construct 40 miles of new line, North Vancouver, B. C., and Squamish extension, $10,500,000 (60); construct 330 miles of new line, Prince George, B. C., Dawson Creek and Fort St. John, $42,000,000 (10).

Pennsylvania: Construct passenger-terminal improvement, Pittsburgh, Pa., (80); yard development, Conway, Pa., (53); construct additional ore unloader, Philadelphia, Pa., (100); rearrange ticket sales and service facilities in Pennsylvania Station, New York (5); construct freight-car repair shop, Hollidaysburg, Pa., (75); construct supporting yard for plant of Ford Motor Company, Bedford, Ohio, (100). Total approximate cost of these projects, $75,600,000.

Peoria & Pekin Union: Construct office building, freighthouse and powerhouse with provisions for later addition of mechanical facilities and wash and locker rooms, Creve Coeur, Ill., $1,250,000 (10).

Quebec North Shore & Labrador: Construct diesel-repair shops, including boiler house, and shovel-repair shop and new platform at Seven Islands, Que., $1,450,000 (100); install CTC, including train radio and telephone, Seven Islands to Schefferville, $1,500,000 (100).
(*Continued on page 198*)



All types of maintenance equipment, such as this ballast machine excavating intertrack ballast, can now be serviced with ONE grease...Esso Multi-Purpose Grease.

SIMPLIFY TRACK AND MACHINERY MAINTENANCE... USE ESSO MULTI-PURPOSE GREASE

Now ONE grease serves many purposes in railroad track and right-of-way maintenance work. Esso Multi-Purpose Grease is gaining wide acceptance with more and more railroads, because it is ideally suited for maintenance-of-way equipment such as ballast cleaners, tampers, cribbers, screeners, and many others including automotive and construction equipment.

ESSO MULTI-PURPOSE GREASE offers three important advantages:—

1. Its unexcelled quality has been proved by performance on the road and in the lab in a multitude of applications. For example, it has outstanding bearing sealing properties and ability to meet the extreme requirements of automotive wheel bearings, yet performs equally well in applications requiring a general purpose grease.
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Valuable years of experience in research and development, along with continual testing on the road and in the lab, stand back of the outstanding performance of famous Esso Railroad Products.

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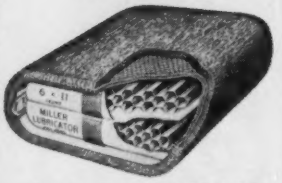

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• Cost – $40 per carset
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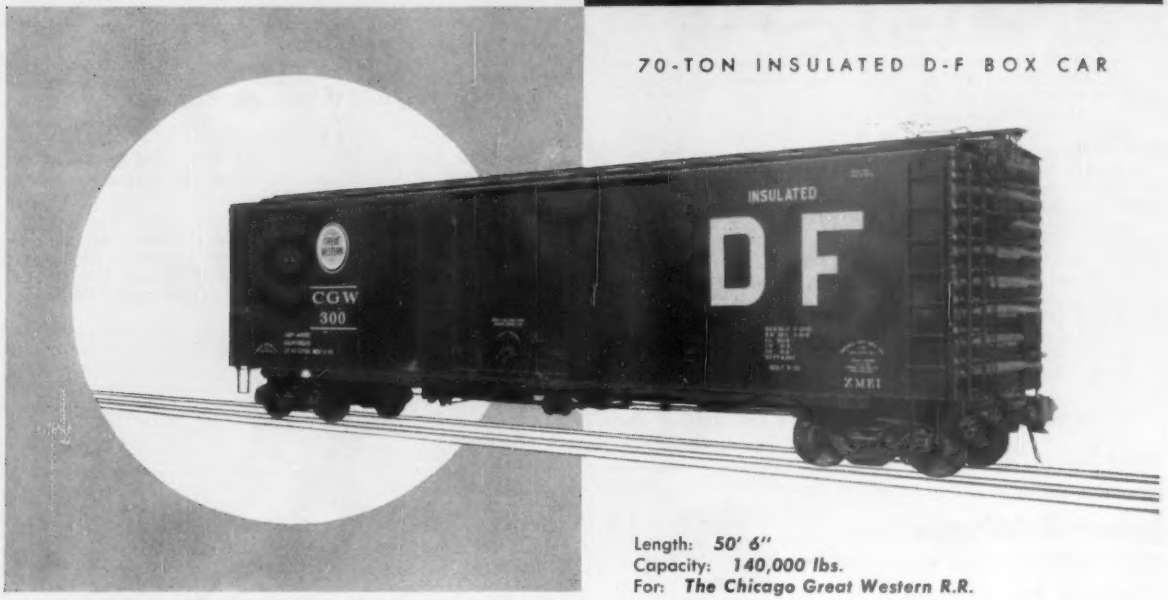

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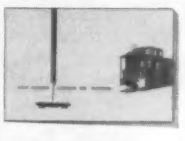

Write for our booklet "Cost-cutting Customs on 'Customs'". It shows what Thrall can do for you on new Specials or Standards, reconditioned and leased cars.

THRALL CAR MANUFACTURING COMPANY
2602 Wallace St., Chicago Heights, Illinois

(*Continued from page 194*)

Reading: Construct new low-grade freight line between Reading, Pa., and Blandon, $2,225,500 (100); modernize yard facilities, Reading, $1,285,500 (25); reconstruct bridge over Schuylkill river, Reading, $1,525,500 (7); reconstruct bridges and install new signal controls on the Reading Belt branch, Reading, $3,350,000 (95).

St. Louis-San Francisco: Construct new terminal office, rearrange train yard, modernize rip yard, retire old mechanical facilities, construct modern diesel facilities, Kansas City, Mo., $2,400,000 (75); install CTC and extend sidings between Nash, Mo., and Turrell, Ark., $1,049,520 (90); construct new modern hump-yard and appurtenant facilities, Memphis, Tenn., $9,500,000 (18).

St. Louis Southwestern: Construct general office building, Tyler, Tex., $1,425,000 (100); relocate 17.5 miles of main track due to construction of Texarkana reservoir by U. S. government, between Texarkana, Tex., and Naples, $5,700,000 (85).

Seaboard Air Line: Construct system wheel and axle shop, Hamlet, N. C. (50).

Southern: Rebuild Wabash River bridge on off-line location, Mt. Carmel, Ill., $1,300,000 (100); extend Citico yard and construct new connecting track, Chattanooga, Tenn., $13,800,000 (99); construct new car shop, Hayne, S. C., $1,500,000 (10).

Southern Pacific: CTC on 96 miles of main track, extend 11 sidings, retire 3 sidings between Crescent Lake, Ore., and Eugene, $3,684,250 (97); make 8 siding connections involving construction of 10.7 miles of new track and rearrange existing CTC between Colton, Cal., and Indio, convert 4.33 miles of siding to second main track, construct 4.55 miles of new second main track between Indio and Thermal, install 114 miles of CTC including construction of 5 new 9,000-ft sidings, extend 11 sidings to 9,000 ft and retire 11 sidings between Thermal and Yuma, Ariz., $7,000,000 (30); construct first step of retarder yard, consisting of 5 classification tracks, runaround track, tail track, necessary track connections, and 200-ton motion-weighing track scale, automatic switching, necessary buildings, etc. (ultimate yard to consist of 6-track receiving yard, 9-track local yard, and 48-track classification yard, including automatic switching, automatic speed control, car repair and cleaning tracks), Eugene, Ore., $1,600,000 (10). **Texas & New Orleans:** Convert Englewood freight terminal into gravity switching yard by constructing 254,351 track-feet of additional track, hump structure and embankment for crest of gravity yard, provide car-retarder system, including power-operated switches and automatic switch and speed control, Houston, Tex., $5,464,000 (93).

Spokane, Portland & Seattle: Relocate 14.0 miles of line at Dallas Dam pool, Northdalles, Wash., $2,400,000 (40); revetment work and placement of equalizer pipes through embankment, MP 108 to MP 120, $1,150,000 (0); relocate facilities and revetment work, Wishram yard, $1,450,000 (0); raise north end of Celilo bridge and convert one 319-ft fixed truss span to lift span, $1,614,000 (0). (These projects required by construction of Dalles Dam Pool).

Union Pacific: Construct new locomotive and car servicing and repair facilities, 61,300 ft of trackage and yard office, replacing existing shop facilities, East Spokane, Wash., $2,103,100 (100); line change consisting of replacing 16.5 miles of double main track and 6.13 miles of single main track with 16.03 miles of double main track and 6.64 miles of single main track, replacing 0.12 miles of Grass Valley branch with 0.56 miles of track in new location, required in connection with the construction of The Dalles dam by U. S. Government between The Dalles, Ore., and Hook, $7,313,178 (75); construct 39,310 ft of additional trackage and arrange 21,040 ft of trackage, replace stockyards in new location, install oil and steam lines, construct diesel shop with attached stores building, erect two metal locker buildings, provide platform space for machine shop and office, Council Bluffs, Iowa, $2,791,256 (50); install 264.5 miles of CTC, extend and retire sidings, acquire right of way and construct 10.25-mile line change, to replace 7.51 miles of double track and 1.08 miles of single track with 8.44 miles of single track, construct two 8,100-ft passing tracks and two 2,000-ft set-out tracks between Granger, Wyo., and Pocatello, Ida., $7,525,711 (20).

Union: Construct 9-track receiving yard, capacity 463 cars, 8-track stub-end southbound yard, capacity 129 cars, and 24-track classification yard, capacity 828 cars, with one master retarder and three group retarders, one 92-ft track scale for motion weighing, automatic remote-control switching and relocation of three main tracks at Duquesne (Pittsburgh), Pa., $4,250,000 (100).

Wabash: Construct new train yard, Detroit, Mich., $1,500,000 (100); construct loading dock facilities and supporting tracks, Melvindale, Mich., $2,440,000 (50).

Western Maryland: Construct pier additions and improvements, McComas Street Terminal, Port Covington, Baltimore, Md., $3,820,000 (10); construct additional storage, turning and unloading facilities at grain elevator, Port Covington, Baltimore, $1,300,000 (90).

Western Pacific: Replace 5,131 ft of timber lining with concrete lining in two main-track tunnels between Chilcoot, Cal., and Niles, $2,000,000 (100); replace 3,057 ft of timber lining with concrete lining in main-line tunnels at Niles, Belden, Rich Bar and Keddie, $1,225,000 (95).

Labor & Wages

(*Continued from page 16*)
sites to the Scranton-Lackawanna Industrial Building Company. The land is adjacent to the Dunmore car shop.

Organizations

The **Traffic Club of New York** and **Atlantic States Shippers Advisory Board** will hold a luncheon meeting in the Hotel Commodore, New York, at 12:30 p.m., January 12. Speaker, William White, president, Delaware & Hudson; subject, "Time to Get Off the Fence."

William L. Fogleson, director of traffic for P. R. Mallory & Co., has been elected general chairman of the **Ohio Valley Transportation Advisory Board,** succeeding R. J. Tyler, general traffic manager of Tube Turns. Dana B. Gee, traffic manager of Capital City Products Company, was chosen alternate general chairman, while L. H. Sickman, traffic manager of E. Kahn's Sons, continues as general secretary. J. E. Vetter, traffic manager of Superior-Marquette Cement Company, was named chairman of the executive committee, and R. E. Keith, traffic manager of Colgate Palmolive Company, was elected vice-chairman.

The winter general meeting of the **American Institute of Electrical Engineers** will be held in the Hotels Statler and Governor Clinton, New York, January 30-February 3.

Newly elected officers of the **Washington Passenger Association** are: President, K. H. Karriker, Chicago & North Western; first vice-president, William P. Higgins, Pennsylvania; second vice-president, F. P. Blackard, Norfolk & Western; secretary-treasurer, C. M. Walburgh, Baltimore & Ohio.

Law & Regulation

Power to Impose Penalty Per Diem Sought by ICC

The Interstate Commerce Commission is again seeking legislation which would permit it to use the per diem rate as a regulatory instrument to promote prompt movement of freight cars. Its undertaking to do that under present provisions of the Interstate Commerce Act was struck down by the courts in 1947, and it has since sought legislative relief from time to time, first in its annual report for 1950.

The commission's latest move was a request that the Senate Committee on Interstate and Foreign Commerce sponsor an amendment to section 1 (15) to authorize, in periods of shortage or threatened shortage, the imposition on using roads of such charges (in addition to normal per diem or other usual rentals) "as in the opinion

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The Westinghouse Air Brake 3CD compressor, shown here, is unsurpassed for reliability. Millions of hours of operation have proved it to be a most dependable compressor for railroad use.

Westinghouse Air Brake
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of the commission are reasonably calculated to relieve such shortage or threatened shortage by promoting the expeditious movement . . . . of freight cars." The additional charges would be paid, like per diem, to owning roads.

Senate Hearing—Senator Magnuson, Democrat of Washington, chairman of the Senate committee, announced he had received the commission's request in a statement which recalled that the senator offered last year to consider any legislation the commission might suggest to alleviate car shortages. The chairman plans to call further hearings on the subject early in Congress' present session, the statement also said.

The commission's "justification" for its proposal cited the 1947 court decision and went on to give figures indicating the drop in ownership of freight cars by Class I roads in recent years. The commission added:

"The depleted inventory of freight cars and an unequal contribution of cars by individual carriers to national ownership has complicated the problem of obtaining greater utilization of the existing fleet. Railroads which own few or no cars are inclined toward a practice of hoarding foreign-line cars for prospective loading.

"During and since World War II, every measure reasonably calculated to extract greater utilization from existing inventory of freight cars has been adopted by the commission, one of the most important of these steps being establishment of greatly stepped-up demurrage charges against shippers and receivers to insure prompt loading and unloading. These measures, however, have been inadequate to cure the problem arising from what is perhaps the most important segment of the cycle of car handling and movement—the phase when the car is in the hands of the carrier.

"As long as a car is in the hands of the carrier, the commission has virtually no way to compel prompt action. The lack of effective means to spur and stimulate railroads into greater activity in times of car shortage or threatened car shortage is the major weakness in the present car-service provisions of the act."

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. . . have a "pet problem" that the present chemical products you're using don't quite master? Would you like to find something really **New** *to do the job? That's exactly how we'd like to help you. Our research and development staff is busy working on several new and unusual problems . . . others we've already solved: like creating a* **New** *non-chromate, non-toxic corrosion inhibitor for diesel engine cooling systems . . . and a* **New** *rapid cleaning compound for car washing, which is speedy, protects paint, leaves no stains or streaks. There are other unique products in process in our "lab." You'll hear about them soon.*

But, "What is **Your Specific** *problem?" If it involves chemical research and development staff work, we would like to know about it! Call, wire or write us on the details.*

Wright CHEMICALS

RAILROAD CHEMICALS DIVISION
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Carriers Will Pay Higher Unemployment Insurance

Contribution rate paid by railroads under the Railroad Unemployment Insurance Act has been boosted to 1½% of the taxable payroll for 1956.

This action, announced in Chicago by the Railroad Retirement Board, means the carriers may have to pay around $70 million this year in payroll taxes, at the present level of employment. Board member T. M. Healy had predicted this increase several weeks ago (*Railway Age*, October 24, 1955, page 86).

The Unemployment Insurance Act specifies the contribution rate for any calendar year depends on the balance in the account on September 30 of the preceding year. The balance September 30, 1955, was $395 million.

This schedule governs the per cent-of-payroll contribution railroads must make: A balance of $450 million, ½%; $400-450 million, 1%; $350-$400 million, 1½%; $300-350 million, 2%; $250-300 million, 2½%; and less than $250 million, 3%.

ICC Would Keep Accident Reports Confidential

The Interstate Commerce Commission is considering making railroad accident reports confidential.

It so advised in a December 29, 1955, notice to interested parties who were given 30 days to file written statements in opposition to the proposal. The notice called attention to the fact the revised accident report form (Form T) will be effective this year; and that it "provides for more complete and comprehensive information than has heretofore been required."

The proposal to make the reports confidential is designed "to promote complete and accurate reporting and to prevent any improper use of these

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For speed and safety, specify Equipco Non-Spin Hand Brakes. Available also are the drop-type hand brake for flat cars and the lever-type hand brake for drop-end gondolas. Every brake is A.A.R. Certified. Write today for free booklet, "Hand Brake Safety."

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UNARCO FIBROUS PRODUCTS DIVISION manufactures superior insulations—WOVENSTONE, INSUTAPE, INSUTUBE—all specifically designed for railroad requirements

data," the notice added. Accident reports made by motor carriers are already kept confidential at the commission.

Financial

UP Moves to Acquire Spokane International

The Union Pacific has taken steps to acquire the 180-mile Spokane International by offering the latter's stockholders one UP share for each 5½ SI shares held. If stockholders representing at least 80% of SI stock accept the offer, the proposal would then go to the Interstate Commerce Commission for approval.

E. Roland Harriman, UP chairman, pointing out that the SI is an important connecting link between the booming Canadian provinces of British Columbia, Alberta and Saskatchewan, and the rapidly expanding Pacific Coast area of the United States, said the SI would function as a UP subsidiary. The ICC has recommended that the SI be affiliated with a large railroad. SI terminals are Spokane, Wash., and Eastport, Idaho. A connection is made with the Canadian Pacific at the latter point.

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Lower installation and maintenance costs—handle more cars better. Foster nationwide warehouses also stock every New Rail Section 12# through 175#, Switch Material and Accessories to meet your specific job requirements.
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ATLANTA 8 • HOUSTON 2 • LOS ANGELES 5

F. C. Rummel, SI president, said he envisioned no drastic changes in the operation of his railroad if the acquisition plan materializes. The SI, which has no passenger service, has been fully dieselized for the past six years. The road's name will be retained, even if it becomes part of the UP.

Delaware & Hudson.—*Stock Split Proposed.*—D&H stockholders, at the annual meeting next May 8, will be asked to approve a plan to split the company's stock by issuance of three shares of no-par value for each $100-par share outstanding. The D&H board of managers has declared an extra dividend of $1 a share, payable January 27 to stockholders of record January 12, and also has announced its intention to increase the regular quarterly dividend from $1 to $1.20 on the present shares. If the proposed stock split becomes effective, the quarterly dividend on the new shares would be 40 cents.

Des Moines & Central Iowa.—*Acquisition.*—This road has applied to the ICC for authority to acquire control of the Fort Dodge, Des Moines & Southern through ownership of stock. It proposes to buy 54,977½ FDDM&S shares to add to the 16,537½ shares it already owns, thus building its holdings to 71,515 shares of the 138,995 outstanding. The purchase price would be $672,215—$172,315 to come from the applicant's treasury and $500,000 from proceeds of an issue of 20,000 shares of stock, subscribed to at par ($25 per share) by DM&CI stockholders. The present application includes a request for authority to issue and sell this stock.

Maine Central.—*Acquisition of E&NA.*—The ICC has authorized this road to purchase the 158-mile European & North American, which it now operates under lease, for $3,114,500 (*Railway Age*, September 26, 1955, page 43). In connection with the purchase, the ICC also authorized the MC to issue and sell $3,114,500 of 5% first mortgage and collateral bonds due in 1980. The bonds would be exchanged for outstanding E&NA stock on the basis of $125 of bonds for each share. Stockholders who elected not to exchange their holdings for bonds would be paid in cash at the rate of $125 for each share of stock, the cash to be obtained through sale by the MC of the unexchanged bonds to an underwriter.

Southern.—*Acquisition of Transylvania.*—The ICC has authorized this road to acquire control of the 32-mile Transylvania, which it now operates under lease, through purchase of capital stock (*Railway Age*, August 1, 1955, page 13). Southern owns 250 shares of Transylvania stock and has agreed to pay $20 each for 1,984 shares held by E. H. Alsop. It would purchase the remaining outstanding 1,466 shares at the same rate.

Wellsville, Addison & Galeton.—*Purchase of B&O Lines.*—The ICC has authorized this newly formed road to acquire from the Baltimore & Ohio 97 miles of road to be operated as a short line in Pennsylvania and New York (*Railway Age*, December 27, 1954, page 14). In approving the purchase, the ICC authorized issuance by the WA&G of 1,000 shares of common stock at $125 a share (or 1,250 shares at $100 a share) and $150,000 of 20-year 4% bonds, proceeds to be used to provide $250,000 as the agreed purchase price and $25,000 as working capital. The authorized stock and bond issues are an adjustment of the WA&G's application, which called for $75,000 of stocks and $200,000 of bonds. The commission said it felt a greater proportion of the investment in the road should be in stock than was contemplated.

Investment Publications

[The surveys listed herein are for the most part prepared by financial houses for the information of their customers. Knowing that many such surveys contain valuable information, *Railway Age* lists them as a service to its readers, but assumes no responsibility for facts or opinions which they may contain bearing upon the attractiveness of specific securities.]

Hooker & Fay, 221 Montgomery st., San Francisco.

The Western Pacific Railroad Company. 10 Years of Transformation.

Smith, Barney & Co., 14 Wall st., New York 5.

Missouri Pacific Railroad Company. Railroad Bulletin No. 200, November 4, 1955.

Kansas City Southern Railway Company. Railroad Bulletin No. 203, December 13, 1955.

New York, Chicago & St. Louis Railroad Company. Railroad Bulletin No. 201, November 18, 1955.

Railroad Stocks. Railroad Bulletin No. 202, November 30, 1955.

Vilas & Hickey, 49 Wall st., New York 5.

Milwaukee-North Western Merger. November 17, 1955.

Public Relations

Gordon Would Reserve Land At Railside for Industry

"Intelligent zoning" is needed to save land with valuable industrial potential for its best use, Donald Gordon, chairman and president, Canadian National, told the Windsor, Ont., Chamber of Commerce recently.

Tracts adjacent to rail lines should be given industrial priority and "not be wasted on residential construction," he said. Growth of a community is "imperilled every time you let some unthinking housing promoter preempt land near a railway line, land which should be set aside . . . for industries

Let's Look at the Record

- Ten thousand WRRS Model 10 Signals are protecting thousands of the most hazardous railroad grade crossings in the United States and Canada.
- Not a single accident has ever occurred as a result of operation failure on the part of these signals.
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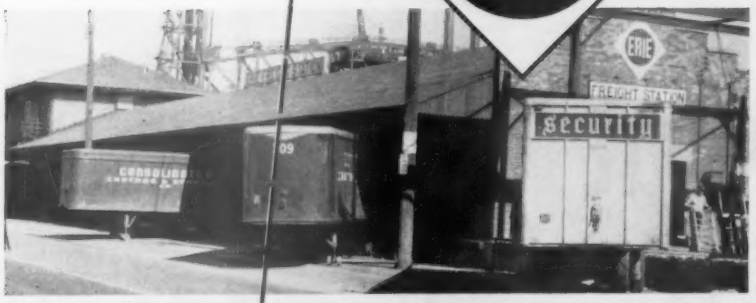

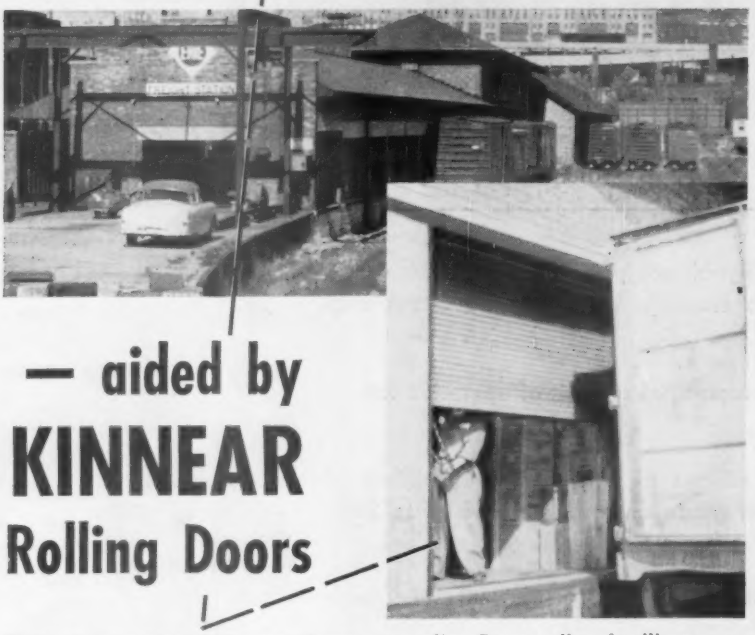

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Through more than 100 years of service, the Erie Railroad has kept pace with modern needs for quick, safe, low-cost freight-handling.

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Like the Erie, a majority of America's leading railroads use Kinnear Rolling Doors because they've proved to be a sound investment in long-lasting low-cost, carefree efficiency. *Write for the 1956 Kinnear catalog.*

—with 1.25 ounces of pure zinc per sq. ft. of metal, ASTM standards.

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which will employ your people and pay your taxes," Mr. Gordon declared.

Just as railroads must plan for the future in acquiring land for their potential use, proper town planning is needed, Mr. Gordon added, to avoid mistakes of the past and to "insure" that families and firms are kept on their own respective "right side of the tracks."

Supply Trade

Youngstown Steel Door Executive Elections

John P. McWilliams, board chairman of Youngstown Steel Door Co. since 1948, and president from 1933 to 1948, has been re-elected president. Other changes include appointment of Emmett P. Dowling as assistant president, a new position, and John J. Buckley as executive vice-president.

Edward E. Robbins has been elected chairman of the board, Earl C. Browne, president, and L. C. Voss, vice-president, of Camel Sales Company, a wholly owned subsidiary of Youngstown Steel Door.

New head of Camel Company, Ltd., another Youngstown subsidiary, is F. C. Heinen of New York City. Mr. Voss has been named vice-president of this company also.

B-L-H Integrates Four Subsidiaries

Baldwin-Lima-Hamilton Corporation on January 1 dissolved four wholly owned subsidiaries, theretofore operating as independent companies, to integrate them more closely into the nationwide organization as divisional units.

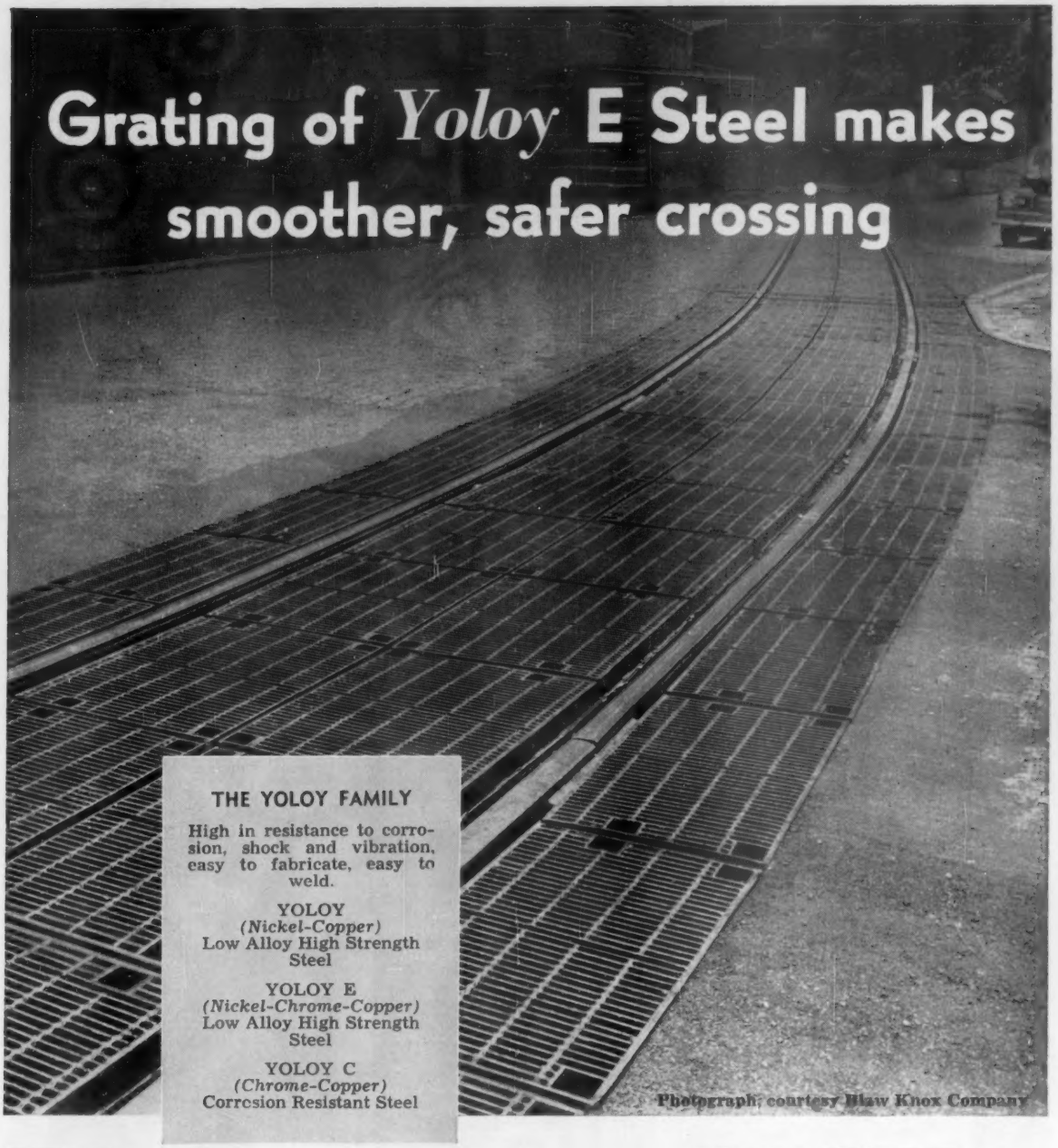
The integrated firms are Austin-Western Company (to be known as the B-L-H Austin-Western Works); Hydropress, Inc. (to be known as B-L-H Loewy-Hydropress division); Pelton Water Wheel Company (to be known as the B-L-H Pelton division); and the O. S. Peters Company (to be known as the O. S. Peters plant of the B-L-H Electronics and Instrumentation division).

The **Railroad Parts Service Company,** Detroit, has appointed **Ray W. Preikschat & Son,** Chicago, as its national representative contacting railroads in the United States.

Duff-Norton Company has named **Richard G. Nolte** vice-president and assistant to president. He was formerly plant manager for **Crescent Industries, Inc.,** Niles, Ill.

Wade S. Plummer, formerly superintendent freight transportation for the Pennsylvania at Chicago, has joined the **Automatic Transporta-**

Grating of *Yoloy* E Steel makes smoother, safer crossing



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High in resistance to corrosion, shock and vibration, easy to fabricate, easy to weld.

YOLOY
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Low Alloy High Strength Steel

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●Crossings of Yoloy E "Electro-forged"* steel grating provide a sure means to increased safety and improved appearance of railroad property - an investment that promotes public good will. For full data on the Yoloy family of steels phone or write our nearest District Sales Office.

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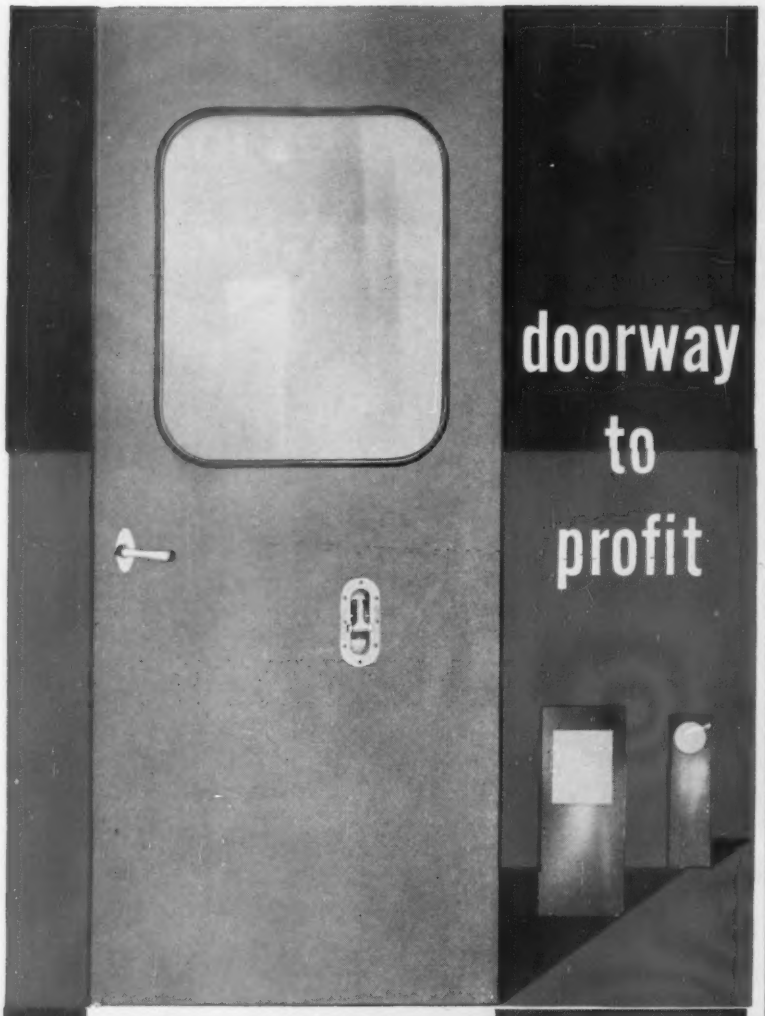

PASSENGER APPRECIATION IS THE KEY TO THE DOOR of *added revenue*—because passengers can "feel" modern design and *appreciate* the "well-cared-for" atmosphere!

But MORTON *Hollow Metal Door* design is more than "beauty deep!" Engineered to *exact* dimension, adding *strength without weight* and constructed with faultless precision, MORTON doors cost *less* to replace, *less* to maintain . . . another truly important factor in your "passenger profit" program.

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THE DOOR THAT EXPERIENCE BUILT

These construction features represent over 50 years of constant research and testing.

Die-formed door sheets mean lower cost—and the elimination of moisture entry.

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Continuous-weld edge construction for strength. Eliminates cracking, corrosion, and moisture entry.

Copper-bearing, mild steel door sheets for strength, rigidity, corrosion resistance.

Interior dip-painted with materials to prevent corrosion.

tion Company as general superintendent in charge of manufacturing.

Aeroquip Corporation has opened a new warehouse at 102 Express street, Dallas, to serve the south and southwest area.

Miller Lubricator Company has begun construction of a new factory and office building at Winona, Minn., to be completed by early spring.

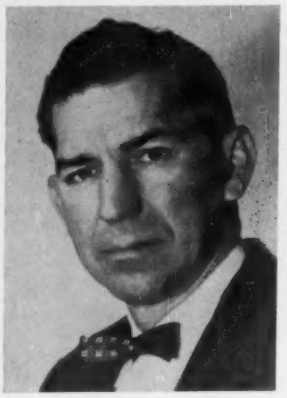
Samuel C. Prest, operating manager, and **J. Ross Drever,** director of research, **Griffin Wheel Company,** have been elected vice-presidents.

The **Nordberg Manufacturing Company** has appointed **Stan H. Haigh Company,** St. Paul, sales representative in the Twin Cities area for Nordberg railway equipment and Power Chief engines.

A new $16 million dollar factory, research laboratory and general office structure will be erected by **Automatic Electric Company** on a 170-acre site in Northlake, Ill.

John Reine, assistant district manager, **Graybar Electric Company,** at Chicago, has been appointed district manager there.

George C. Brecht, assistant to vice-president, sales, **Greenville Steel Car Company,** has been appointed general manager of sales, following



George C. Brecht

the recent death of **A. J. Rose,** vice-president in charge of sales. **John T. Egbert, Jr.,** office manager of sales, has been appointed assistant to Mr. Brecht.

OBITUARY

Henry H. Yerk, eastern sales manager for Niles machine tools, a product of Baldwin-Lima-Hamilton Corporation, died December 23.

William Simpson, retired vice-president of Templeton, Kenly & Co., died at California, Pa., December 8.

Railway Officers

ATLANTIC COAST LINE.—R. J. Councill has been appointed industrial geologist at Wilmington, N.C.

J. H. Arnold has been appointed trainmaster, Columbia district, at Florence, S.C., succeeding **J. M. Marsh, Jr.,** who has been transferred to the Waycross district at Waycross, Ga.

BESSEMER & LAKE ERIE.—R. T. McKeag has been appointed industrial engineer at Greenville, Pa.

BURLINGTON.—J. W. Davidson, designer in the engineering department, has been appointed assistant bridge engineer at Chicago.

R. W. Hollon, mechanical inspector at Chicago, retired December 1, 1955, after more than 49 years of service.

CANADIAN PACIFIC.—J. M. Roberts, assistant freight traffic manager, New Brunswick and Quebec districts at Montreal, has been appointed assistant freight traffic manager—system, rates and divisions, at that point. **M. W. Leslie,** district freight agent at Vancouver, B.C., has been appointed division freight agent, New Brunswick district, at St. John, N.B., succeeding **C. S. Doupe,** who has been promoted to general freight agent, Quebec and New Brunswick districts, at Montreal.

A. M. Hand, general manager of the **Quebec Central** at Sherbrooke, Que., has been appointed assistant manager, personnel department, CPR, at Montreal.

Thomas F. Turner, chief clerk, office of chairman and president has been appointed assistant secretary of the CPR at Montreal.

CENTRAL OF GEORGIA.—William E. Dillard, president, took over direct operation of the CofG on January 1, relieving **Ralph E. Sease,** who resigned as general manager to become president of the **New York, Susquehanna & Western** at Weehawken, N. J.

Fred C. Laing, assistant superintendent of the Macon division, has been promoted to the newly created position of power supervisor at Macon, Ga., with exclusive control over distribution of diesel locomotive power. **T. N. Burnett** has been appointed trainmaster at Albany, Ga. However, at present Mr. Burnett is serving on a special committee assignment at Macon and until this assignment has been completed, **J. W. Shirley** will be acting trainmaster at Albany.

H. C. Ozburn has been appointed general claim agent at Savannah, Ga., succeeding **George S. Gaillard,** who retired December 31, 1955, after over 51 years of service.

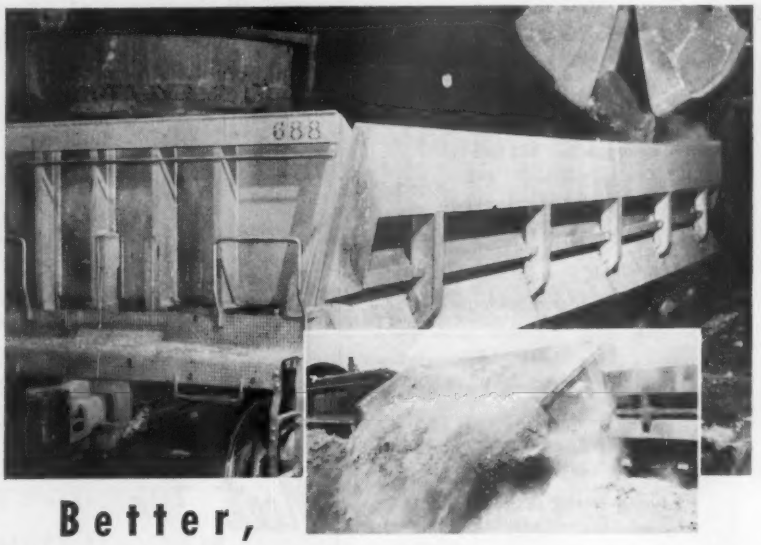
George G. Barbee, general industrial agent of the Nashville, Chattanooga & St. Louis at Nashville, Tenn., has been appointed to a similar position on the CofG at Atlanta, Ga., effective January 1. Mr. Barbee will serve on the staff of **Harrell L. Perkins,** vice-president.

William B. Tiebout has been appointed foreign freight agent at Chicago.

CHESAPEAKE & OHIO.—R. R. Reynolds has been appointed assistant to general storekeepers at Huntington, W. Va. Mr. Reynolds will work with other departments to develop standards and eliminate duplicate items of material. **J. D. McGann,** storekeeper at Hinton, W. Va., has been appointed assistant to superintendent of stores at Huntington. **G. P. Surber** has been promoted to division storekeeper at Russell Car shop, Russell, Ky., succeeding **J. A. Bawsel,** who has been named district storekeeper at Grand Rapids, Mich.

J. P. Charters has been appointed trainmaster at Grand Rapids, Mich.

CHICAGO & EASTERN ILLINOIS.—Roy E. Ferguson, general freight agent, has been promoted to the newly created position of special assistant to vice-president—traffic, with headquarters as before at Evansville, Ind. **Louis E. Kilmer,** general agent at Detroit, succeeds Mr. Ferguson, and in turn has been replaced by **Howard**



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The yawning bucket drops a huge chunk of waste into this Differential Air Dump Car. Next time the "Sunday Punch" may be tons of reddish hot slag.

For day in, day out service under the rigors of steel mill loading practice, these Differentials perform to the point where steel mills are buying more and more every year.

Unusually rugged design and construction, plus heat resistant floors, when indicated, are part of the answer. Out at the dump it's a matter of seconds to unload completely anything that can be loaded — dumping to **either** side. It all adds up to better, more economical transportation **via Differential.**

Send for detailed specifications!

DIFFERENTIAL PRODUCTS INCLUDE: Air Dump Cars, Charging Box Cars, Ingot Mold Cars; Locomotives, Mine Cars, Mine Supply Cars, Rock Larries, Mantrip Cars, Dumping Devices and Complete Haulage Systems.

DIFFERENTIAL STEEL CAR COMPANY
FINDLAY, OHIO

SINCE 1915—PIONEERS IN HAULAGE EQUIPMENT

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The International Dating Brand

THIS BRAND
will be around a long time

YEARS HENCE, you will note this "56" on still-sound and good-looking ties, and calculate with satisfaction their long, dependable service. Just as today, hundreds of thousands of ties in track, marked with the "IC" emblem and dated 'way back to earlier years, speak for the superior service of Internationals.

International ties are known for highest quality selected timber, thorough seasoning, adequate impregnation and careful inspection. Make sure that the ties you install now or in the near future bear this famous brand. International Creosoting and Construction Company, Galveston, Texas.

INTERNATIONAL
HIGH GRADE TREATED
TIES

H. Olmsted, who has been transferred from Toronto, Ont. **L. I. Pietz** replaces Mr. Olmsted at Toronto. **Raymond S. Burns,** commercial agent, has been appointed general agent at Philadelphia, succeeding **John P. Quinn,** who has been named acting traffic manager at New York.

DELAWARE & HUDSON.—The Susquehanna and the Pennsylvania divisions were consolidated on January 1. The combined divisions have been re-named the Pennsylvania-Susquehanna division and are under jurisdiction of a superintendent at Oneonta, N.Y. While the superintendency at Carbondale has been discontinued, all departments of the road will be officially represented there.

George De Camp Hughey, vice-president—operation at Albany, N.Y., retired December 31, 1955, after 43 years of continuous service. Mr. Hughey will represent the D&H at the International Railway Congress, which will convene next June at the Hague, Netherlands. **John P. Hiltz, Jr.,** general manager at Albany since last March, has been elected vice-president—operation and maintenance, succeeding Mr. Hughey. A photograph and biography of Mr. Hiltz were published in *Railway Age* February 28, 1955, page 38.

R. D. Cummings has been appointed manager of purchases and stores and his jurisdiction will include the purchasing and stores department. The position of purchasing agent at Albany, formerly held by Mr. Cummings, has been abolished.

CHICAGO & NORTH WESTERN.—J. R. Brennan, general passenger traffic manager, who has been appointed general traffic manager at Chicago.

The jurisdiction of **C. H. House,** manager of personnel, has been extended to include the safety and medical departments.

Paul J. O'Toole has been appointed general agent, freight department, at New York, succeeding **Ber-**

Meet TOMORROW'S PLATFORM STANDARDS with QUIETER FASTER ENDURING

Built to the standards recommended by the A.A.R. Subcommittee.

F&H STANDARD Express Baggage Mail TRUCKS

available in TRACTOR and HAND DRAWN
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PNEUMATIC or SOLID RUBBER TIRES

Write for BULLETIN 109-B

FRENCH & HECHT
DIVISION
KELSEY - HAYES WHEEL COMPANY
DAVENPORT, IOWA

nard J. Carlin, who has been promoted to assistant general freight agent there.

Robert J. Brogan has been appointed general agent, freight department, at Detroit, succeeding **Frank L. Dunn,** who retired December 31, 1955, after 46 years of service.

DETROIT, TOLEDO & IRONTON.—Edgar A. Walther, freight traffic manager at Dearborn, Mich., has been appointed traffic manager there, succeeding **Harvey H. Coleman,** retired. **Robert S. White,** general eastern agent at New York, has been named freight traffic manager at Dearborn, succeeding Mr. Walther. **Don M. Fishbeck** has been appointed general freight agent at Dearborn and the position of assistant general freight agent, formerly held by Mr. Fishbeck, has been abolished. **George M. Haile** has been named eastern traffic representative at New York, succeeding **Richard J. Gunton,** who has been appointed general eastern agent, replacing Mr. White.

DONORA SOUTHERN.—H. W. Vogenberger, Jr., assistant general superintendent of the **Lake Terminal** at Lorain, Ohio, has been appointed general superintendent of the Donora Southern at Donora, Pa., effective January 1. He succeeds **E. L. Roberts,** who retired after more than 37 years of service.

ERIE.—James M. Moonshower, assistant superintendent, Marion division, at Chicago, has been promoted to superintendent of the Buffalo division at Buffalo, N.Y., succeeding **Carl S. Kinback,** who has been transferred to the Delaware, Susquehanna and Tioga divisions at Hornell, N.Y. Mr. Kinback replaces **John R. Ebert,** who has benn transferred to the New York division at Jersey City, N.J., succeeding **Harry A. Bookstaver,** named transportation coordinator. **Harry E. Joyce,** trainmaster, New York division at Port Jervis, N.Y., has been promoted to chief trainmaster at Hornell, succeeding **William M. Wiarda,** promoted to assistant superintendent, Marion division at Chicago, to replace Mr. Moonshower. **Paul J. Seidel,** trainmaster, Mahoning division, at Meadville, Pa., has been transferred to the Meadville division, at that point, succeeding **James W. Connor,** who has been transferred to the New York division at Port Jervis to replace Mr. Joyce. **William J. Donnelly,** trainmaster at Youngstown, has been transferred to Huntington, Ind., succeeding **Lloyd J. Carter,** who succeeds Mr. Seidel at Meadville. **Paul R. Rice,** general yardmaster at Marion, has been promoted to trainmaster at Youngstown succeeding Mr. Donnelly. **Carman E. DeJoia,** assistant superintendent, marine department, at Jersey City, has been promoted to superintendent of that department, succeeding **Marcy B. Roderick,** promoted to marine coordinator.

The advancements of Messrs. Bookstaver and Roderick to transportation coordinator and marine coordinator, respectively, are part of the Erie's proposed transfer of passenger operations from Jersey City to the Lackawanna Terminal in Hoboken. They will be on the staff of **Garrett C. White,** assistant vice-president, who is in charge of working out details for the proposed relocation of stations.

Francis H. Menagh, superintendent of communications at Cleveland, retired December 31, 1955, after more than 42 years of service. **William S. Storms,** signal engineer at Cleveland, has been appointed general superintendent communications and signals, and **Frank Youngwerth,** assistant signal engineer, has been named assistant general superintendent communications and signals. **George D. Poole,** assistant superintendent communications, has been appointed superintendent of communications. **Walter J. Lyons,** general foreman, communications, has been named communications engineer. The positions of signal engineer, assistant signal engineer, assistant superintendent of communications and general foreman of communications have been abolished.

MANUFACTURERS.—J. J. Kummer, assistant purchasing agent of this road and the St. Louis Refrigera-

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tor Car Company at St. Louis, has been appointed purchasing agent of the two companies, succeeding **F. W. Schildknecht,** purchasing agent and assistant secretary, who retired January 1, after 31 years of continuous service.

MISSOURI-KANSAS-TEXAS.—H. S. Turner, diesel superintendent, has been appointed chief mechanical officer at Parsons, Kan., effective January 1, succeeding **T. H. Evans,** who retired after 39 years of service. Mr. Turner's successor is **U. H. Pfeil,** assistant diesel engineer at Parsons.

Mr. Turner was born 52 years ago in Parsons and joined the Katy in 1919 as an engine wiper. He progressed through the ranks to diesel superintendent, which position he held until his recent promotion.

H. S. Turner

J. F. Coghlan, Jr., division freight and passenger agent at Parsons, Kan., has been appointed assistant general freight and passenger agent at Wichita Falls, Tex., replacing **H. G. Smith,** who has retired after 49 years of service with the Katy.

J. L. Richardson, general freight agent—rates at Dallas, has been appointed assistant freight traffic manager—rates at that point, succeeding **R. T. DuBose,** who has retired after 35 years of continuous Katy service. **P. V. Demerest,** general agent at Cincinnati, has been named eastern traffic manager at New York, succeeding **W. H. Krumm,** who has retired after 49 years of continuous service. **A. H. Zavadil,** general agent, freight department, at Chicago, has been appointed to the newly created position of general freight agent there, and has been succeeded by **C. A. Espen,** commercial agent at Chicago. **Hugh L. Zimmerman,** export-import agent at Houston, Tex., has been appointed general agent at Memphis, Tenn., succeeding **F. A. Honeycutt,** who replaces Mr. Demerest at Cincinnati. **William H. Wiley,** commercial agent at Kansas City, Mo., succeeds Mr. Coghlan as division freight and passenger agent at Parsons. **L. E. Mitchell** has been promoted to the newly created position of assistant

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NEW YORK CENTRAL.—The titles of the following have been changed: **H. J. Palmer,** from assistant to vice-president, operations and maintenance, to executive assistant; **J. D. Driscoll,** from chief budget supervisor, to director of budgets and statistics; **K. L. Metzman,** from office manager to administrative assistant; **H. E. Bixler,** from manager of transportation to director of transportation; **C. S. Hill,** from manager of power utilization to director of power utilization; **T. D. Shonts,** from manager of car utilization to director of freight car utilization; **C. E. Black,** from manager of passenger train operation to director of passenger train operation; **H. J. Slavin,** from manager of freight train operation to director of freight train operation; **A. A. Burkhardt,** from general supervisor stations and motor service to director of freight stations and motor service; **T. F. McCabe,** from chief of management services to administrative assistant.

Effective January 1, operating districts of the NYC system are designated as follows: Eastern district (formerly line east—Boston & Albany district) under jurisdiction of the general manager at Syracuse, N.Y.; Western district (formerly line west district) under jurisdiction of the general manager at Cleveland, Ohio; Northern district (formerly Michigan Central district) under jurisdiction of the general manager at Detroit, Mich.; and Southern district (formerly CCC&StL district) under jurisdiction of the general manager at Indianapolis, Ind.

Joseph T. McDermott has been appointed chief claim agent at Boston, Mass., succeeding **George W. Brittingham,** who, at his own request, has been appointed district claim agent at Toledo, Ohio.

J. H. Palmer has been appointed trainmaster, electric—Harlem—Putnam division at Harmon, N.Y.

NORTHERN PACIFIC.—**John H. Poore,** vice-president—assistant to president at St. Paul, and **L. L. Schwarm,** land commissioner at St. Paul, retired December 31, 1955.

PENNSYLVANIA. — William S. Merrick, manager of freight sales and services, New York region, has been promoted to freight traffic manager, with headquarters as before at New York, succeeding **Raymond J. Wood,** who has retired after 49 years of service. **W. S. Wilson,** district sales manager at Philadelphia, succeeds Mr. Merrick as manager of freight sales and services at New York.

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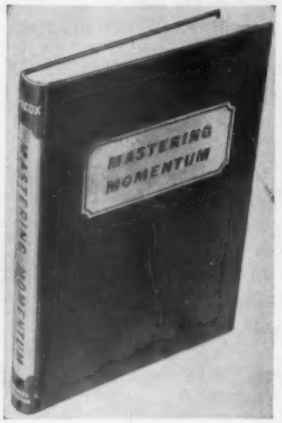

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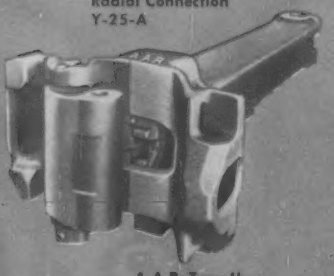
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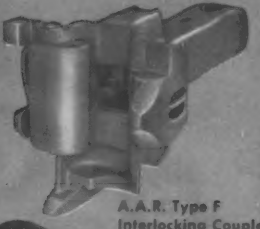
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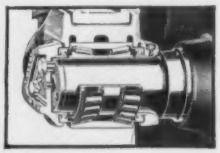

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